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Worldwide Report

ENVIRONMENTAL QUALITY

No. 328



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WORLDWIDE REPORT
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BRIEFS

SALINE SOIL CONVERSION--Bombay, 21 Sep--Soil scientists on the coastal region of the country discussed here today ways of converting the seven million hectares of salt-affected region into productive areas. They are attending a two-day conference on saline soil organised jointly by the Konkan Krishi Vidyapeeth and the Karnal-based Central Soil Salinity Research Institute. Inaugurating the conference, the vice-chancellor of the vidyapeeth, Dr P. V. Salvi, said soil was a scarce and valuable resource and it should be put to maximum use. Maharashtra alone had 63,537 hectares of coastal saline land. The vidyapeeth's two research stations at Panvel had done useful work in evolving technology for cultivating salt-affected areas. Dr J. S. T. Yadav, director of the institute, said some of the saline wasteland could support fuel-wood plantations. Kerala has already evolved a new technique of using these lands for food and cash crops, he added. Mr M. S. Dayal, general manager (marketing) of the Rashtriya Chemicals & Fertilisers Ltd., welcomed the gathering, and Dr S. B. Kadrekar, dean (agriculture) of the vidyapeeth, proposed a vote of thanks. [Text] [Bombay THE TIMES OF INDIA in English 22 Sep 81 p 3]

CSO: 5000/7006

REAFFORESTATION PROJECT BEGINS IN EASTERN PROVINCE

Colombo SUN in English 10 Oct 81 p 13

[Article by Suren Peiris]

[Text] The reafforestation project in the Eastern Province was inaugurated at Rugam in the Kalkudah electorate by the Minister of Lands and Land Development and Mahaveli Development. Associated with Minister Gamini Dissanayake was the Minister of Home Affairs the Deputy Minister of Posts and Telecommunications and the District Minister of Batticaloa.

The main reason as to why Minister Gamini Dissanayaka chose and instructed the State Timber Corporation (S. T. C.) to commence this re-afforestation project was to expeditiously reafforest the areas devastated by the cyclone in the Eastern Province. It has been estimated that over 90 per cent of the teak trees of varying grades were either twisted, blown down or destroyed. What ever timber that could be used, was salvaged by STC and sold to the public. This was done in a way where it was seen that the timber was utilized in a beneficial way by the consumer. Even the residue material that was left after sawing operations was used in the manufacture of wood charcoal. This charcoal is now being successfully used for domestic cooking purposes. The STC will now plough back a large portion of the money into this reafforestation programme.

The programme in the Eastern Province covers around 30,000 acres of cyclone affected areas. An extent of about 1,500 alone this year would be planted with teak and indigenous species.

In order to facilitate the programme the State Timber Corporation has already established nurseries in the Eastern, North-Central, Northern Western Provinces and up-country areas to nurture plants.

These nurseries have been situated on land areas of over 50 acres in extent and indigenous mixed species like Halmilla, Satin, Khomba, Mahogany and Welang are being nurtured for the purpose of planting.

The intention of Minister Gamini Dissanayake is to get Departments and Corporations coming within his purview to view tree planting, landscaping and environment improvement from a more long-term point of view and within the framework of conservation and the development of resources.

This has been necessitated because within the last two decades forest cover in the country has been reduced to 25 per cent of the total land area. In 1958 Sri Lanka had a forest cover of around 6 million acres of land which was equivalent to around 50 per cent of the total land area of the country.

The Chairman of the State Timber Corporation following the directive of Minister Gamini Disanayake has begun varying aspects of reafforestation. Among them are the dry areas in Mannar and Mankulam have been earmarked for the planting of fuelwood for estate timber and fuel requirement. This is in addition to the massive reafforestation project taken by STC in the Eastern Province. It is evident that the State Timber Corporation wants not only to increase the timber and fuelwood resources in the country, but also to build climax type forests and at the same time preserve the complementary ecological system.

CSO: 5000/4903

NEW CLEAN AIR TECHNOLOGY EFFECTIVE AT CHEMICAL PLANT

Prague LIDOVA DEMOKRACIE in Czech 1 Oct 81 p 3

[Article by ena: "We Are Responsible for Our Environment--Better Air in Lovosice--Joint Achievement of Science and Culture"]

[Text] The environment, its creation and protection, is a high priority topic today. You only need to look around to see that we are not exaggerating. Take emissions, for instance. We all have had at times the unpleasant sensation of breathing air which is far from pure. Or the dying woods. You must have paused more than once before trees which were bare of leaves. And perhaps you were appalled by polluted water in a river. We must not neglect our environment. We are responsible for its purity.

Protection of the environment against pollution is a long-term and demanding task both from the technical, economic and organizational aspects. How we deal with it directly affects the health of every man and the aesthetic appearance of the places in which he lives, works and rests.

Clean, healthy environment is becoming a new criterion for our general progress. Hence, it does not suffice to tally contributions from existing production capacities and expected contributions from the realization of new actions and new technologies. A comprehensive view of economic growth must also take into account ecological problems and risks. They must be controlled immediately. With the passage of time they would cost us more than these immediate contributions...

Experts from many different fields are therefore joining forces to protect the environment: scientists and researchers with their latest discoveries and workers from the production sphere with their valuable experience and determination to do the best for our environment.

Nitrogen oxides are among the most serious air pollutants. Although such emissions are limited locally, they represent a health and ecology problem, particularly in the vicinity of the pertinent plants.

Nitrogen oxides are contained in the end gases developed during the production of nitric acid. The composition of these gases depends on the specific conditions of production. The most effective mode of removal of these products from end gases is their catalytic reduction to elementary nitrogen. And this is best achieved by selective reduction using ammonia as the reducing agent.

Based on the principle of this progressive method are the two parallel-connected Renox 604 units with an output of 2 x 60,000 cubic meters used since last year to prevent the escape of harmful substances in the atmosphere of Lovosice. They were installed there in the North Bohemian Chemical Plants.

Renox 604 units in the Lovosice chemical plant are a product of the 17-member expeditor team headed by Eng Jan Koci from the Prague branch of the Research Institute of Chemical Equipment in Brno. The members of this team joined their forces with workers of the Institute of Inorganic Chemistry of the Czechoslovak Academy of Sciences, Chemoprojekt in Prague, Victorious February Plants in Hradec Kralove and North Bohemian Chemical Plants in Lovosice. The result is a healthier environment in the town and its vicinity, and savings of 8.6 million crowns compared to the original project. At present, the expeditor team is preparing another Renox set for the East Bohemian Chemical Plants in Pardubice.

Other advantages of selective reduction, besides low consumption of the reducing agent, include low capital expenditures and the independence of the set from the technological parameters of nitric acid production itself. It can be added to the existing production plants and its operation does not affect production in any way. The set can also be used as a direct component of the nitric acid production plants.

The Renox 604 is produced by the national enterprise Victorious February Plants in Hradec Kralove and is exported by Technoexport, the joint-stock company for foreign trade in Prague. Additional factors speak in favor of the Renox 604: no waste products are generated by the process, its operation calls for a minimum number of workers while the effectiveness of operation is high, and currently available raw materials and energy can be used.

Chemistry is a highly developed industrial field. We have become accustomed to its providing a vast number of products necessary for our life and the entire national economy. Chemistry is also dangerous, however. It threatens our environment and the entire vegetable and animal kingdoms. We must quickly eliminate this other side. This is one of those examples in which man, having disturbed the equilibrium of nature, has assumed responsibility for its fate in the future.

9562

CSO: 5000/3002

RESIDUE-FREE INCINERATOR DESCRIBED

Prague TECHNICKY TYDENNIK in Czech 14 Jul 81 p 8

[Article: "An Incinerator Without Emissions"]

[Text] Present-day incinerators for solid household wastes frequently are subject to very high costs for cleaning of combustion products. The investment and space costs of separate equipment for cleaning combustion products are close to the cost of the incinerators themselves.

From monitoring developments, we can state that moist cleaning of combustion products is increasingly being replaced by dry cleaning because of the high operating costs of the former method, even though the investment cost of dry cleaning of the gas is considerably higher.

The equipment described here provided optimal burning and good cleaning of combustion products with low investment and operating costs. The requirement in its development was to design an incinerator for combustible radioactive wastes which would have small volume, would emit only negligible quantities of harmful substances, and would have a high level of operating safety. These conditions also apply, of course, to conventional incinerators, but in this case particular attention had to be devoted to the considerably more stringent requirements regarding emissions in the incineration of radioactive materials. Optimal precleaning of the combustion products was expected to result in a smaller load and thus considerably greater filter life.

The equipment was developed and tested by the nuclear research incinerator at Julich in West Germany (KFA). It had the following operating characteristics: combustion 99 percent, percentage of dust in combustion products less than 0.05 g/Nm^3 , CO content 0.01 percent, filter fabric life 1,000 hours; the combustion temperatures were 800°C in the main incinerator area and $1,000^\circ$ in the secondary area.

The incinerator consists of a firebox which contains a secondary combustion chamber typical of this equipment. The wastes for incineration fall from a feed unit to a two-piece vibrating grate in the main firebox. The air required for combustion flows from above and is exhausted below through the incandescent bed lying on the vibrating grates. The vibration of the grates continuously shakes loose part of the bed, so that a thick bed of ash is formed below it. Above this, combustible gases flow downward and are mixed with air for further combustion, so that the material which has settled in this location is further incinerated.

Typical of this approach and essential for combustion products quality, however, is residue-free combustion of the particles carried by the current of combustion products. Accordingly, these combustion products are fed into the secondary combustion chamber located around the ash bed, by means of a filtering fabric resistant to high temperatures, on which a layer of dust is deposited. Here, at temperatures above $1,000^{\circ}\text{C}$, components of the exhaust gases are burned by air which is fed in for secondary combustion; this process is catalytically supported by active components of the dust layer. At the same time, the particles which still remain in the combustion gases are filtered out.

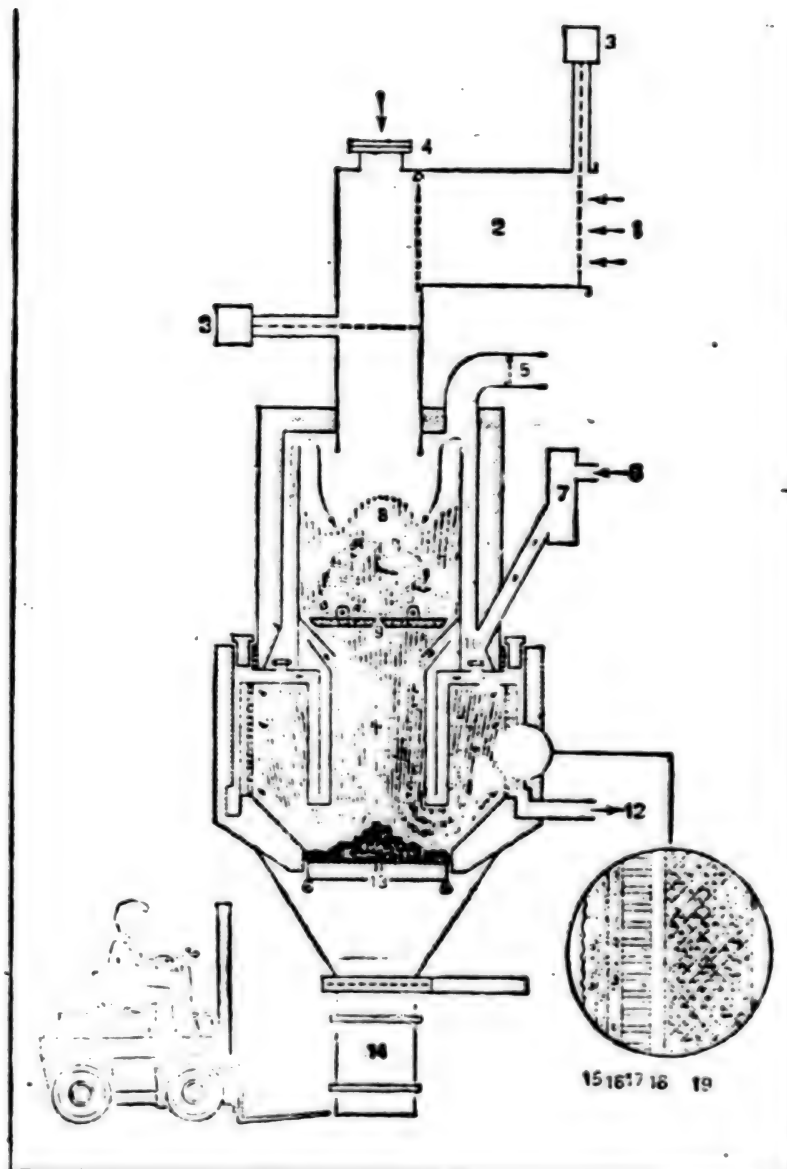
The dust layer on the vertical, relatively flexible filter fabric, folds up when a certain operating condition is reached and falls onto the dust bed. This cleans the filter fabric surface automatically at specific time intervals. The increase in the flow resistance produced by the dust layer on the filter fabric is insignificant, so that it has no unfavorable effect on the operation of the equipment.

The life of the filter fabric is about 1,000 hours; it can be replaced without special equipment.

The incinerator developed and tested by KFA has a capacity of 50 kg of waste per hour; this capacity is suitable, for example, for operation in clinics, biological institutes and small industrial operations; but it could be dimensioned for a larger capacity.

Operation of the Incinerator

- Key:
1. Introduction of wastes
 2. Feed box
 3. Control damper
 4. Inspection port
 5. Safety valve
 6. Combustion air intake duct
 7. Air preheater
 8. Main firebox
 9. Firebox grates
 10. Secondary combustion air regulator
 11. Secondary combustion air intake duct
 12. Combustion products outlet to chimney
 13. Dust removal
 14. Residue after combustion
 15. Dust layer
 16. Filter fabric resistant to high temperature
 17. Perforated ceramic plate
 18. Channel for cleaned combustion products
 19. Lining



8480
CSO: 5000/3024

NOISE POLLUTION MEASURES DESCRIBED

Prague TECHNICKY TYDENNIK in Czech 14 Jul 81 p 8

Text Against Textile Machinery Noise

The Textima combine in East Germany, a producer of textile machinery, has already held two conferences attended not only by designers and scientific and technical personnel from the textile machine building sector, but also by textile production, union and labor safety and health protection personnel, at which they jointly discussed protection against noise in textile machinery. And now there has been a substantial change: while in the past a machine was developed in accordance with technological requirements, and only then did they begin work to decrease its noise to prescribed levels, now noise protection requirements are included in the development requirements for each new textile machine, and adherence to proper working conditions during its operation is considered alongside its technical functions. The Liropol pile machine has 5 to 7 times the capacity of weaving machines, but half the noise. In addition, a newly developed carpet machine has considerably lower noise, with more than twice the productivity of standard weaving techniques. Thus textile machine designers have focused on making use of all possibilities for decreasing noise, particularly in the machines which are the noisiest in the textile industry.

A Personal Noise Indicator

The Institute of Physiology, CSAV, in Prague has developed a semiconductor pocket device which measures the accumulated noise dose to which the user has been exposed. When a specified limit is exceeded the personal indicator gives a colored light signal. The noise is recorded by a microphone, and intensities exceeding a prescribed limit are integrated by electric circuitry to give the equivalent noise dose (intensity times time), which is continuously displayed on a meter. The dose is expressed as a percentage of the maximum permissible dose according to Czechoslovak standards, i.e. 100 percent corresponds to 85 dB for an 8-hour period or 115 dB for 5 minutes. The device makes possible effective protection of workers in industry against the harmful effects of noise, and may also be used for running measurements of the instantaneous noise intensity. It will be produced by the Znak production association in Brno.

8480

CSO: 5000/3024

IDB TO FUND STUDY OF COASTAL AREAS, BEACH EROSION

Bridgetown ADVOCATE-NEWS in English 26 Sep 81 p 2

[Text]

The Inter-American Development Bank (IDB) has announced the approval of a Can\$503 000 technical co-operation grant to finance a pre-feasibility study of ways to conserve the beaches and coastal areas of Barbados.

According to the bank, the projects will consist of a preliminary diagnostic survey of the nature and possible causes of beach erosion and accretion along the island's coastline, pre-feasibility studies of the strengthening of the environmental division of the Ministry of Housing, Lands and the Environment.

Maintenance and improvement of the Barbados coastline and beaches is of critical importance to the tourism industry, which is a major sector in the nation's economy and a leading source of foreign exchange income.

"In 1978 the sector accounted for 11.6 per cent of the country's Gross Domestic Product. By 1983 this amount is expected to increase to 13.6 per cent," the bank said.

Erosion has been occurring along the entire coastline of Barbados, particularly along the West Coast between Bridgetown and Smitons Bay and on the south coast from Oistins to Bridgetown.

The bank's technical co-operation was extended to the

Government of Barbados from the Canadian Fund for the Preparation of Development Projects.

The executing agency for the project will be the Ministry of Housing, Lands and the Environment.

The studies will be undertaken by a Canadian consulting firm which will be selected by the Government of Barbados.

Specifically, the consultants will examine viable alternatives for protecting the south and west coasts and beaches from the technical, economic and financial point of view, will identify and evaluate possible damaging effects to the Barbadian economy of not taking corrective measures as well as the costs involved in solving the problems under different alternatives, and will develop terms of reference and cost estimates for carrying out a feasibility study and analyse all relevant legislation pertaining to the beaches and coastline.

In addition, the project will include training in Canada of two professionals from Barbados in environmental management and coastal engineering.

On their return, these professionals will be assigned as full-time employees to the environmental division of the Ministry of Housing, Lands and Environment.

CSO: 5000/7507

BRIEFS

MARINE POLLUTION--The continuous pollution of the immediate offshore sea area between Oistins and Hastings, is leading to the disappearance of some forms of marine life which were once common to the area. This assertion was made last week by Opposition senator Wes Hall in the Senate during debate on Government's plans to acquire land at Rockley beach, to construct toilet facilities and accommodations for beach vendors. Hall said that sea-moss, sea-eggs and some species of fish and shelllife had virtually disappeared because of the pollution. He stated he was pleased to hear that Government was preparing toilet facilities, a great need for many years at Rockley, but hoped that local people would not experience difficulty in using them. Senator Hall also called for the appointment of more Parks and Beaches rangers to help maintain the quality of south coast beach areas, noting that there was only one ranger policing from Long Beach to South Point. [Text] [Bridgetown THE NATION in English 29 Sep 81 p 3]

CSO: 5000/7507

BRIEFS

EXTENSIVE FLOOD DAMAGE--Ocotepeque, Honduras, 15 Oct (ACAN-EFE)--A "state of emergency" has been declared in western Honduras, where rivers and streams have caused floods, killing one person and causing extensive damage in several communities. The authorities said that one person died and several cattle ranches, sugar and basic grains plantations and citrus fruit and tobacco groves were destroyed by the floods, which have also interrupted roads and destroyed bridges. The damage is estimated in the millions, but the exact amount has not been determined. Air and land reconnaissance reveal more damage every day, especially on the communications routes, which has the authorities concerned. Lempira, Ocotepeque and Copan departments are most seriously affected by highway destruction. The (Higuito), Aruco, Catapa, Ajagual and Grande Rivers, which are fed by the waters of numerous streams and brooks, have overflowed their banks. The authorities said that bad weather continues in the region and that more communities of the region could be isolated, because the foundations of several bridges in the area which have been inspected are being undermined by the floodwaters. [By Armando Cerrato] [Excerpts] [PA151835 Panama City ACAN in Spanish 1625 GMT 15 Oct 81]

CSO: 5000/2012

MUCH OF NATION'S WATER SUPPLY SAID TO BE POLLUTED

Paris AL-NAHAR AL-'ARABI WA AL-DUWALI in Arabic No 227, 7-13 Sep 81 pp 13-14

[Article by Fadiya al-Sharqawi: "Two Systems--Water and Sewage--Intersect and Impinge On Each Other; We Are Drinking Poison and Expect Cholera; Beirut's Water Supply, and That of Marj 'Uyun, are Clean; the Only Difference Between Mineral Water and Ordinary Water Is the Chlorine"]

[Text] Do the Lebanese people, particularly those who live in the suburbs, know that water samples from 'Ayn al-Dalbah have not been tested in 5 months? Or that this water supply is the one that is most tainted by pollution and germs because of its continual exposure to excrement in the sewage which mingles with it?

Do the Lebanese people know that since the outbreak of the events the required tests of the water supplies everywhere--North, South, East, and West--have not been carried out, with the exception of Beirut, where the central laboratory is located and can perform these tests without difficulty?

Do the Lebanese people know that the disinfecting, which is done by the Water Authority everywhere, is confined to haphazardly adding chlorine to the water supply we drink without any analysis or computation of the quantities? Adding this substance to water requires sufficient study so that no long-term harm is caused to those who consume it.

Do the Lebanese people know that most of the sewage systems, which have not been overhauled or modified since the time of the Mandate, mingle with our drinking water systems?

Do the Lebanese people know that, according to an employee of the Ministry of Health, with the exception of Beirut and Marj 'Uyun there are practically no water sources fit for drinking if cleanliness and freedom from contamination are taken into account?

So the Lebanese people are being slowly poisoned day by day, either by the presence of germs in the water from excrement and the like, or by too little or too much disinfectant in the drinking water. The state goes about poisoning its citizens to the end, particularly those with low incomes, while giving assurance--either appropriately or inappropriately--that the water is fit for consumption and that it is germ-free. The evidence for this--which lacks substance in Lebanon--is that a cholera epidemic has not yet occurred here.

Who is responsible for this "puzzle" which is called water? Who can be examined and held accountable in this matter when "this matter involves more than one ministry and authority" according to the minister of public health, Dr Nazih al-Bizri? Should the citizens resort to mineral water, which we have been inclined to do whenever a crisis in the water supply occurs in Lebanon? Its price has risen sharply of late. Can that be a solution to the problem, particularly when there is no difference between mineral water and ordinary water other than the presence of chlorine?

These are questions we put to the head of the central laboratory, Dr Sahl Murad. He answered as follows:

[Answer] Beirut's water supply is clean and pollution-free. That is, it is free of the germ *Escherichia coli*, the presence of which is an indication of pollution by human or animal excrement. We have not received specimens of water for testing from 'Ayn al-Dalbah since March because of the security situation. We rarely receive samples of water from the North because there is a laboratory in Tripoli to analyze them. Before the outbreak of the events they used to send us samples for testing for additional reassurance. But we still continually receive samples from Jubayl.

Although we have not tested the water of al-Baruk in a long time it is clean, even if it sometimes becomes polluted by certain germs present in the soil which are harmless and are called coliform. The water supplies of Sidon and the South are also clean. We used to receive samples from them for testing continually. But because of the recent Israeli raids and the destruction of the bridges we no longer receive anything from them. We receive nothing from the border area or from al-Biq'a' or al-Hirmil, with the exception of Zahlah which has resumed sending us samples for testing since the recent events.

[Question] Must the testing of specimens be carried out on a daily basis?

[Answer] Analysis of the water must be done daily. But this also depends on the place. The bigger the locality the more urgent the need for daily testing. This is the case in Beirut, Sidon and Tripoli, for example. But even that is not enough. Analyses of various samples from a variety of sources must be made. In the past we used to receive samples even from homes and shops in addition to those from the municipalities.

[Question] Don't you think that this is the responsibility of the laboratory?

[Answer] In the past, when things were more peaceful, there were teams belonging to the Ministry of Health which traveled throughout Lebanon in accordance with an agreed-upon program in force in the central laboratory and the Department of Disease Prevention in the Ministry of Health. However, because of the security situation and a shortage of vehicles and employees for this purpose this measure, which had been carried out in addition to the tests conducted by the water authorities and the delivery of samples to us, has been discontinued.

[Question] What about the wells the people use which have become customary, particularly in modern buildings? Are they fit for drinking and other uses?

[Answer] Most wells near the coast are polluted and not fit for drinking because they are near the sewers which are close to the surface at the shore, and because the sea water, which in Lebanon is polluted, reaches them. However, deep wells, most of which are found away from the coast, are less polluted, as far as drinking is concerned. They can be used for external use, as well as for cooking, as long as the water is boiled. But none of these water sources is fit for drinking or for washing vegetables. They can be made fit, however, if the people put a drop of chlorine in each liter of water and let it stand for 15 minutes to take effect and kill the germs.

[Question] What diseases can be caused by the water?

[Answer] Ninety percent of water pollution is caused by excrement which by itself poses no threat to public health except in combination with water. Its presence in the water is an indication that dangerous germs such as typhoid, paratyphoid, cholera, dysentery, poliomyelitis and acute hepatitis are present.

[Question] Is it normally advisable to drink mineral water when the ordinary water is polluted? What is the difference between ordinary water and mineral water in Lebanon?

[Answer] There is no difference between mineral water and ordinary water in Lebanon besides the absence of chlorine which we add to ordinary water. I believe that all water in Lebanon would be mineral water, were it not for the chlorine which is added to it.

[Question] Does this mean that [mineral water] is exposed to pollution the same as ordinary water?

[Answer] Mineral water may sometimes contain harmless germs from the soil. But these germs can become harmful from long-term contact with the container they are in--that is, for more than a year--particularly if these plastic containers are exposed to high heat. That is what alters the water's flavor and odor.

The Role Of the Ministry Of Health Is Inspection

What does the minister of health think about all this? Is he alone responsible for this matter, particularly when it is the Ministry of Water Resources which supervises the distribution and disinfection of water, while the municipalities are responsible for the sewage systems?

Minister Nazih al-Bizri says:

[Answer] The Ministry of Health's connection with the cleanliness and purity of water involves inspection and laboratory analysis. Keeping the water clean and germ-free is the responsibility of the Ministry of Water Resources and the water authorities which must be equipped with a laboratory for performing daily tests on the water, and which must have the tools necessary for disinfecting the water on a continual and regular basis. The job of the health inspectors, other doctors and employees of the central laboratory is confined to publishing the laboratory reports and verifying the results of the disinfecting operation which must be carried out on a continual and regular basis. In the event of any suspected contamination specimens are taken to the central laboratory for testing. If the water turns out

to be polluted the water authority, which is responsible for distribution and monitoring, is informed and is requested to reapply its disinfectant devices and monitor the water more vigorously. The Ministry of Health will continue to retest until it is certain that the corrective measures have taken effect and that the water has become safe. But because of the deteriorating security situation there has been a shortage of inspectors and they are less able to move about. This has led to infrequent monitoring. I believe that the reason cholera has not broken out in Lebanon so far is simply due to the fact that the water has not become polluted and is, from the standpoint of health, at a high level. We hope that security will return to allow increased and more precise and more effective monitoring.

[Question] Since there is a shortage of inspectors why don't you hire new ones?

[Answer] It is difficult to hire new inspectors because they are not needed. We are afraid that if we did, the security situation would prevent them from carrying out their work.

[Question] There have been many cases of illness due to water pollution. Don't you think the minister of health should publicize this matter, even if it does not directly fall under his responsibility?

[Answer] Not every case of diarrhea is a case of an infectious epidemic which is attributable to polluted water. If that were so the diarrhea would be of an epidemic nature. But diarrhea is still occurring on an individual basis, as a result of contaminated food more than anything else. This is due to faulty coordination among the ministries. This job belongs to the Municipalities Department for the most part, to the Department of Water Resources and Water Inspection to a lesser degree, and thirdly, to the Ministry of Health. It is up to them to make sure that the water and food are free of contamination through inspection and laboratory analysis. It is the job of the ministry to plan the hygienic measures which must be followed and to continually publicize this subject for the purpose of guidance, training and hygiene education. But the task of implementation belongs to the Ministry of the Interior, the municipalities, the Ministry of Economy, the Department of Food Inspection and the Ministry of Water Resources, which supervises water distribution. If the Ministry of Health wanted to carry out all of these tasks it would need an army of employees to supervise the water and food.

9123

CSO: 5000/4701

BRIEFS

REFORESTATION COMPENSATING FIRE DAMAGE--The Directorate of Forest Services of the Ministry of Natural Resources is nearing the end of its nationwide campaign of reforestation for 1981. It needs only to complete the planting of 500 trees in 2 hectares of the green belt surrounding the capital. In the country's interior the reforestation campaign includes the Gabu, Oio and Cacheu areas. Each of these areas has a nursery, that of Oio being the largest and in operation since 1975 in N'Bunhe, 7 km from Bissora. The Gabu area was the least protected, through lack of transportation equipment, whereas the Oio area was the one with the greatest amount of reforestation, now having more than 100,000 new trees. About 30,000 were planted in Gabu. The reforestation campaign is aimed at reestablishing the ecological balance seriously threatened by fires which destroy thousands of hectares of forest each year. The seedlings are planted in the dry season, and transplanting begins in July and, with the rains, the new plants gain the strength necessary for growth. This biggest concern of the Directorate of Forest Services at present is maintaining the new plantings. Therefore, the directorate plans, through the Ministry of Education, to recruit students for the job of weeding to prevent the spread of any fire which might occur in the reforested areas. [Text] [Bissau NO PINTCHA in Portuguese 23 Sep 81 p 3] 8568

CSO: 5000/5608

BAIXO LIMPOPO FLOODS AFFECT AGRICULTURE

Maputo NOTICIAS in Portuguese 6 Oct 81 p 3

[Text] A large part of the land belonging to state enterprises and cooperatives in Baixo Limpopo has been flooded by recent rains, a condition made worse by poor drainage. One ditch is now discharging through an excavation made two weeks ago. Until that time, the water could not pass through to the river because of an obstruction in the piping system of the aqueduct constructed on the ditch of the Xai-Xai-Chibuto highway.

The Limpopo Valley area, located north of Xai-Xai and comprising a surface area of 10,000 hectares, is drained principally by the Umbapi ditch, about 10 km long, and the Ponela collector, both having a discharge capacity estimated at 13 cubic meters per second when the current is strong. The two ditches have their flood-gates at a section of the Limpopo River located 3 km from the city.

"Umbapi is the principal collector inasmuch as it traverses the lowest part of the valley. We are now opening a section which will connect this ditch with the Ponela ditch to obtain a greater runoff of the water," Engineer Humberto Boer told the Radio Mozambique staff.

"The question of drainage ditches in Baixo Limpopo has been taken lightly by enterprises and organizations directly affected," he continued. Thus, most of the farms do not have a single drainage ditch, and the few which exist have not been maintained for years. This is one reason the water from the torrential rains which fell up to 13 September and which are in fact abnormal for this time of the year has remained on a large area of the land.

According to the engineer, improvement of the drainage ditches will begin as soon as the water level returns to normal.

"With regard to the Umbapi collector, we are no longer thinking about repairing the piping system but rather of building a bridge. Moreover, we shall use part of our equipment to remove any obstructing material, that is, to clean the main ditches. It is obvious that part of the cleanup work will have to be done manually and, in this case, the people--at least of the cooperative farms located between here and Inhamissa--should participate. At the Marien N'Gouabi Agricultural Cooperative this work is already being done by members of the cooperative," Humberto Boer said.

The director of the irrigation system said that opening and maintaining drainage ditches is not part of the organization's responsibility. "This work was part of our responsibility until 1979, but from that time on our instructions are to build and maintain the irrigation system. Thus, the opening and maintenance of drainage ditches is not our responsibility. However, with the flood situation, which has already stopped our work for one month, we feel obligated to do something," he said.

8568

CS0: 5000/5608

GOVERNMENT ORDERS CLAMPDOWN ON CUTTING TIMBER

Salisbury THE HERALD in English 28 Oct 81 p 6

[Text]

LANDOWNERS wishing to cut or remove indigenous trees from their plots for commercial purposes have to notify the Forestry Commission before doing so, the Government announced yesterday.

A spokesman for the Ministry of Natural Resources and Water Development said the measures had been taken to curb the "over-exploitation" of indigenous timber in certain areas of the country.

He said, in terms of recent amendments to the Forest Act, owners of land who wanted to cut or remove indigenous trees would have to tell the Forestry Commission at least 14 days in advance.

"This only applies in the case of indigenous timber and does not apply to firewood or poles for the owner's use, for example in tobacco curing, brick burning, barn building, charcoal burning or domestic purposes."

The written notice would have to contain the name and postal address

of the landholder, the locality of the land, the district and the date on which the owner intended to cut the trees.

The spokesman said the notification requirement was now to be done annually and any owner of private land who had not done so last year would have to comply with the new regulations.

"The permit is not a necessity — this is a notification requirement only. It does not affect agricultural clearing and stumping, or development operations, unless the timber is to be sold, manufactured, or to be cut or removed in terms of an agreement."

CSO: 5000/5609

EARTHQUAKE PREDICTION EFFORTS COORDINATED IN TAJIKISTAN

Dushanbe KOMMUNIST TADZHIKISTANA in Russian 27 Sep 81 p 4

[Article by O. Sobolev, correspondent of TADZHIKTA: "Accurate Prediction of Earthquakes"]

[Text] The seismology scientists of the socialist countries have worked out a program of joint research for the next 4 years. It was adopted at the conference of the commission on scientific cooperation of the academies of sciences of these countries on planetary geophysics which ended on 25 September.

"The unification of efforts to solve the problem of accurate prediction of earthquakes, one of the most threatening phenomena of nature, is very timely," said the head of the Soviet delegation Hero of Socialist Labor, Lenin and USSR State Prize laureate, Academician Mikhail Aleksandrovich Sadovskiy in commenting on the results of the commission's work. "The underground element has brought great misfortune to many countries until now, and it is very important to learn to accurately and opportunely warn people about imminent strong shocks."

The largest scientific institutions in the USSR are involved in this problem, including the Institute of Earth Physics and the Institute of Geochemistry of the USSR Academy of Sciences, the All-Union Institute of Mineral Raw Materials, and many others. The regional center of the Central Asian seismological service, the Institute of Seismically-Stable Construction and Seismology of the Tajikistan Academy of Sciences is working in close contact with them. It is now beginning to coordinate the research planned at the conference. This selection was not accidental. The Tajikistan scientists have created a major network of seismic stations and observatories, have accumulated experience in collecting and processing data on ready underground shocks, and have compiled detailed seismic maps. This already makes it possible to judge the seismic situation in the region and to reliably construct power engineering, industrial and civic facilities in the seismically active zones, that is, the basis for a future system of earthquake prediction is available.

It is very important to use the experience of the colleagues who are working in the European region, the achievements of the socialist countries in developing the latest instruments and automated systems, and methods of processing data of scientific observations when formulating methods of accurate prediction of the time and place of strong earthquakes. The exchange of scientific information that took place at the conference will bring us closer to the desired goal.

9035

CSO: 5000/2

RESTORATION OF MUD-DAMAGED LAKE ISSYK BEGINS

Moscow PRAVDA in Russian 5 Aug 81 p 6

[Article by L. Spektor, outside correspondent of PRAVDA: "Born Twice"]

[Text] Work has begun to restore Lake Issyk.

"Jewel of the south" and "mountain miracle" are names given to the lake of rare beauty that overflowed in the branches of Tyan'-Shan', 50 kilometers from Alma-Ata. People were attracted here by the stately mountains with century-old spruce, shores overgrown with bushes, and clear air. The most picturesque corner of the Zailiyskiy Alatau became a vacation spot for the citizens.

Researchers have established that the lake was born 8,000-9,000 years ago. A powerful rock landslide partitioned off the rapid river flowing out from a deep gorge. A lake was formed on the 50-hectare resulting dish. The lake was up to 300 meters deep and there was no more beautiful a lake around. Many people came to its shores to admire the mirror surface which reflected both the high sky and the trunks of the century-old trees. The forest inhabitants blazed paths here to drink of the spring water.

The catastrophe occurred 18 years ago. A threatening mud flow developed on 7 July 1963 high in the mountains. Gathering strength, the avalanche of mud and rocks rushed into the gorge. A wave as high as a 12-story house fell into the lake. The ancient dam was destroyed by the mighty impact and a 400-meter wide gap was formed. About 15 million cubic meters of clear water "leaked" through it in the counted minutes. The stream destroyed everything that grew around.

It appeared that the "mountain miracle" had died forever for man. But the specialists nurtured plans to restore the lake. It was first suggested that the safety of the neighboring villages and city of Issyk be guaranteed from the streams that could fall on them. The plan intends, without damaging the lake, to use its waters to irrigate fields. And finally, it is planned to turn this wonderful corner of nature into a vacation spot once more.

The plan has begun to be implemented these days. We are going to the Issyk valley together with the first deputy head of the Kazglavselezashchita A. Khegay . Aleksy Yur'yevich is an experienced specialist in the construction of anti-mud flow structures. He participated in making the dam near the high-mountain roll in the Medeo area. He speaks enthusiastically about the imminent work on the way. It is planned to build a hydrosystem with a dam, tunnel and anti-mud flow structures.

Here is the former lake. The last time I was here was the day before its disappearance and I saw a unique beauty. Now instead of the mirror-like surface there is a hardened mass of silt and sand, boulders scattered in disorder, and steep shores that are exposed to the very granite. Only the rapid mountain stream, like a century ago, continues its course.

The noise of the running water now merges with the roar of the air hammers. A water-drainage tunnel has begun to be laid in the rocky mountain. It is 2 meters in diameter and a kilometer long. A little to the side, the excavator buckets bite into the ground. A filled dam over 50 meters high will rise here instead of the gaping, wide wash-out.

We walk upwards over the river bed. A strange structure sticks out of the water. It looks like a bookstand assembled from large beams which are not permanently fastened, but seem to be strung onto vertical steel axes. In the case of strong pressure from mud masses, the pyramids made of bookstands will cushion the impact, let the water through, and hold back the large rocks and tree trunks.

"Such a trap," A. Knegay notes, "will be able to hold back a mud stream of great power."

But when will the lake again gladden the citizens?

"In 1985, according to the plan. We are trying to keep within the schedules. Perhaps we will get ahead of them."

9035

CSO: 5000/2

COORDINATED EFFORTS CLEAN UP CASPIAN SEA

Baku VYSHKA in Russian 4 Aug 81 p 3

[Article by F. Akhundzade, head of the Azerbaijan basin administration to regulate the use of and protect the waters ("Kaspvodnadzor"): "The Caspian Will Become Cleaner"]

[Text] The "Main Directions for Economic and Social Development of the USSR for 1981-1985 and for the Period to 1990" adopted by the 26th CPSU Congress has a special section "Environmental Protection." It stipulates the allocation for these purposes of monetary resources by the ministries, departments and enterprises. This is a graphic example of the concern of the party and government for protection of man's environment.

For a reservoir such as the Caspian Sea which is unique in all respects, the USSR Council of Ministers took measures twice in the last decade to prevent its pollution. The decree adopted by the Azerbaijan Communist Party Central Committee and the Azerbaijan SSR Council of Ministers in 1978 provides for complete stopping of discharge of polluted water into the Caspian Sea before 1985.

Not only the leaders of the departments and enterprises have shown concern for environmental protection at this time. The citizens, collectives and all Soviet people have an understanding of the solution to this problem.

During the 10th Five-Year Plan, 89 water-protection and water-management facilities were built and put into operation in the republic. Their construction cost 188 million rubles. As a result, the volume of polluted effluent discharged into the sea was reduced by 105,000 cubic meters per day as compared to 1975. The degree of contamination of the Caspian waters with petroleum products in intensive industrial regions such as Sumgait beaches and Neftyanyye Kamni was reduced 10-fold.

There is no doubt that many are interested in the Baku bay. Improvement in the water area of the bay is primarily linked to a halting of waste water discharge into it. It should be said at once that this problem is being successfully resolved. A municipal sewer system with biological treatment works with output of the first phase of 600,000 m³ per day is currently under construction. The start-up of the first phase of the treatment works will send the communal effluent on a collector to the treatment works.

The Permanent Commission for Environmental Protection of the Azerbaijan SSR Supreme Soviet last year examined the question of measures to purify the bay of the

accumulated contaminated silt. A number of organizations and institutes are currently making a thorough study of this problem and formulating the appropriate measures.

The oil workers have done a lot in the past years to protect the Caspian Sea. All the casing head-formation water extracted with the oil is pumped into underground levels for recovery and maintenance of the formation pressure. The newly built offshore platforms have hermetically-sealed metal flooring.

It cannot be forgotten at the same time that all the facilities of the offshore oil workers are located directly on the sea. This circumstance gives especial acuteness to observance and fulfillment of the fundamentals of water legislation.

The problem of taking ballast water from fleet tankers has been completely resolved by the Caspian Sea Steamship Company. Taking of communal effluent from the fleet ships with its subsequent transfer to the municipal sewer system has been set up in the Baku marine port. It is gratifying that the Caspian Steamship Company has set up an emergency service to eliminate consequences of large oil spills by the tanker fleet. This service is currently being supplied with equipment, special ships and chemical reagents. In the very near future our republic will have all the technical resources to eliminate the consequences of large oil spills at sea, if they occur.

At the same time the following circumstance is alarming. The Baku seaport has four oil collectors, however they do not operate satisfactorily since the management of the Caspian Steamship Company does not pay proper attention to their operation. One hundred and twenty-five sets of equipment for air cooling with total cooling surface of 532,000 m² were installed and put into operation during the last five-year plan at the oil refineries. This reduced water consumption by 135,000 m³ per day. A waste-free water cooling system was set up at the plant "Neftegaz." Construction and start-up of biological purification works with return of the purified water to the circulating system are stipulated in the 11th Five-Year Plan at the oil refining industry enterprises. After their start-up, discharge of waste water into the bay by the oil refining enterprises will stop.

Construction of circulating water supply systems is of primary importance not only for a reduction of waste water discharge and decrease in contamination of the Caspian, but also for a significant saving of drinking water.

Start-up of a circulating system in the association "Khimprom" was stipulated, in particular, back in 1979. The schedules for introduction of this important facility have been interrupted however.

In our opinion, the Sumgait industrial region needs more radical measures since the chemical enterprises have more harmful waste water, than for example, the enterprises of machine construction, light and food industry. Creation of a general system for purification of waste water of the entire industrial complex would be the most correct solution for Sumgait.

The "Main Directions for Economic and Social Development of the USSR for 1981-1985 and for the Period to 1990" state: "Accelerate construction of water-protection facilities in the basins of the Black, Azov, Baltic and Caspian Seas. Increase the

output of the circulating and re-use of water systems, develop and introduce at the enterprises waste-free water-use systems."

The successful resolution of these problems will permit the Caspian to retain its cleanliness for our progeny as well.

9035

CSO: 5000/4

MORE CLEAN WATER MEASURES NEEDED IN KAZAKH SSR

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 10 Jul 81 p 4

[Article by Ya. Klevanov, chief state sanitary physician of the Kazakh SSR, deputy minister of public health of the Kazakh SSR: "Screen for Harmful Effluent"]

[Text] Man has settled close to open water since ancient times, and his well-being has directly depended on the distance to the river and the lake. This dependence has noticeably weakened with time. Canals, water pipes, deep drilling, etc. appeared. The need for water, on the contrary, rose with the development of industry and various sectors of the economy and daily life. There was a corresponding increase in the quantity of wastes of vital activity, chemical preparations, metals, biological substances, etc. which enter the reservoirs with the used water. It became necessary to protect them from harmful effluent and to preserve their cleanliness for ourselves and our progeny.

Our country is focusing enormous attention on this problem through party, soviet and economic agencies.

Comrade L. I. Brezhnev indicated: "Taking measures to accelerate scientific and technical progress, it is necessary to do everything so that it is combined with a thrifty attitude to natural resources and is not the source of dangerous pollution of air and water. Not only we, but the subsequent generations must have the opportunity to enjoy all the benefits given to us by the excellent nature of our motherland." The Main Directions for development of the country which were approved by the 26th CPSU Congress also state: "Improve protection of the water sources, including small rivers and lakes, from depletion and pollution."

Protection of the open reservoirs in our republic with its vast arid zones acquires special importance. It is no accident that in recent years the Kazakhstan Communist Party Central Committee and the government of the Kazakh SSR have adopted a number of decrees aimed at improving the sanitary condition of the reservoirs. The republic's Ministry of Public Health jointly with other ministries and departments have worked out comprehensive plans to guarantee cleanliness of the rivers and lakes.

The republic in recent years has set up a system of constant observation of reservoirs, detection of the main sources of pollution, and has been more persistent in halting discharge of untreated industrial and household effluent into the rivers and lakes. Over 380 million rubles were allocated for construction of water treatment facilities in the last five-year plan. This made it possible, in particular,

to reduce the discharge into reservoirs of waste water by 2-fold and to eliminate 17 sources of pollution.

The waste waters of Alma-Ata, Tselinograd and a number of other cities are currently sent through biological treatment. A number of facilities for this treatment are at the construction stage. Measures which have been taken have resulted in an improvement in the sanitary condition of the Ishim, Tobol, Ural Rivers, the Caspian Sea and many lakes and ponds. The quality of their water and its correspondence to the GOST requirements have improved.

Work to protect the reservoirs from contamination requires further improvement however. Last year in the republic, more than half of the sources of production and household waters either did not have any treatment, or it did not meet the sanitary requirements. This situation is characteristic for the East Kazakhstanskaya Oblast, where the Irtysh River is contaminated by production wastes of a number of enterprises of nonferrous metallurgy, as well as for other oblasts.

One of the basic reasons for these shortcomings is the slow construction of the water-protection facilities. Their start-up noticeably lags behind expansion of the volumes of main production of the enterprises. The state allocates significant resources for the creation of treatment works, however, they are not assimilated. For example, the Kazakh SSR Ministry of Residential and Communal Services last year only assimilated half of the allocated R 920,000 for the reconstruction of a canal to divert effluent into Sary-Bulak Lake in the Alma-Atinskaya Oblast. The same percentage of assimilation was "reached" in construction of the important treatment facilities of the ministry of Internal Affairs and the industry of construction materials, the Ministry of Light Industry and the Ministry of Heavy and Transport Machine Building of the republic. The schedules for start-up of the water protection structures at the Ust'-Kamenogorsk lead-zinc and titanium-magnesium kombinats, and other enterprises of the Ministry of Nonferrous Metallurgy were interrupted.

The Ministry of the Meat and Dairy Industry, and the Administration of the West Kazakhstan Railroad are poorly developing this work at their enterprises.

Another, no less important reason for pollution of the reservoirs is the poor operation of the active treatment equipment and the lack of efficient control over its running. This has permitted accidental discharges of industrial and household effluent on the territory adjacent to Alma-Ata, Kustanay, Chimkent and other cities as well as into the neighboring reservoirs in the last 3 years. The people's controllers of the enterprises must play a more active role in preventing these situations. The local soviet and economic agencies must react more quickly to the materials presented by the sanitary-epidemiological services.

It appears that for a more effective solution to these questions it would be expedient to set up unified centers for organization of planned-regular treatment in the major cities.

In Alma-Ata, for example, the most diverse organizations and institutions are now engaged in purification: the city administration for public welfare, the rayon committees for public welfare, the rayon housing administration and other departments. This separation prevents harmony in the schedules and plans for the important measures of treatment and the implementation of proper control over this work.

There are other shortcomings in the organization of sanitary measures in Alma-Ata and in the capital oblast. In particular, individual house-buildings in populated areas located on the shores of the Kapchagay reservoir have not switched to the apartment system of purification. The question has not yet been resolved of allocating a new section for the Alma-Ata city dump, while the already existing dump has already "approached" 250 meters towards the microregion "Dorozhnik" (instead of the assumed 1,000 meters).

All of this has had a negative effect on the sanitary-hygienic condition of the Kapchagay reservoir. It is the main recreation area for the residents of Alma-Ata and the oblast. There is a level of bacterial contamination here which exceeds the permissible standards.

The sanitary regime of the Syrdar'ya River has drastically deteriorated in recent years. The dry residue of its water has doubled in the last 10 years. Its pollution often exceeds the sanitary standards, while the natural flow of the river has diminished in this period 5-7-fold because of regulation by the Chardara and Toktogul reservoirs. This, naturally, diminished the self-purifying capacity of the reservoir.

The acuteness of the problem can be reduced, however, through sanitary outlet of water from these reservoirs, as well as by reconstruction and reorganization of the irrigation systems on the river banks and broad introduction of advanced irrigation methods. Glavrissovkhozstroy should be primarily involved in the specific resolution of these problems.

If we talk about the problem of maintaining the cleanliness of the republic reservoirs as a whole, then all the possibilities to resolve it are available. A broad network has been set up of active treatment works, resources have been allocated for construction of new ones, and rich experience has been accumulated. It is now a matter of specific implementers and organization of practical work.

It is most important in this case to unite the efforts of the interested ministries and departments, and to introduce into practice the construction of treatment works based on a percentage participation of the enterprises, as well as to use other progressive methods.

The tasks set by the 26th CPSU Congress and the 15th Congress of the Kazakhstan Communist Party for environmental protection, in particular of open reservoirs, are complicated but feasible. They need to be solved not in the future, but here and now.

9035

CSO: 5000/4

CLEAN YENISEY RIVER PROGRAM INITIATED

Moscow GUDOK in Russian 2 Sep 81 p 4

[Article by B. Ivanov: "Program of 'Clean Yenisey'"]

[Text] The Yenisey basin which is included among the 10 largest rivers on the planet, is an enormous region of intensive industrial development. On the threshold of this decade, the Siberian scientists developed a large-scale program "Clean Yenisey,"

What caused it? The Novosti press agency correspondent receives an answer to this question from the specialists.

I. Gitel'zon, corresponding member of the USSR Academy of Sciences:

"Even now almost half of the earth's population is feeling a shortage of clean water. This is an alarming symptom, a convincing proof that man by his economic activity is bringing himself closer to that time when the water crisis on the planet will become just as acute as the energy crisis.

The "Clean Yenisey" program is called upon first to coordinate the efforts of many groups of scientists and practitioners to keep the waters of the river clean. It will first be necessary to make an ecological-mathematical prediction of the region's economic development. The water is currently used in many ways, and the interests of the consumers often conflict. But all of them first of all require clean water. Consequently, we can only preserve the ecological equilibrium of the water system by working together.

The experience of the builders of the first Krasnoyarsk GES on the Yenisey with output of 6 million kW is instructive. Its construction was completed in 1972.

The constructed concrete dam, 127 meters high, was a reliable protection from fatal floodings. The gas composition of the water was changed for the better: it became richer in oxygen. New areas of irrigated land appeared and the boundaries of shipping were expanded. In a word, there were many positive factors. However, below the dam, the Yenisey ceased to be covered with ice for a distance of more than 300 km, even in the severe Siberian frosts. The hydraulic engineers could not foresee this since the GES of this output was built for the first time in world practice.

The open water noticeably altered the climate in the region and increased the air humidity. The new program provides for plans which will be able to return the river to its previous condition, and consequently, restore the natural equilibrium. The specialists are taking into consideration the experience of the Krasnoyarsk GES in preparing to build new and powerful stations on the Yenisey, Sayno-Sushenskiy, Sredne-Yenisey, Turukhanskiy, Igarskiy and others.

The industrial enterprises located on the Yenisey now have reliable treatment works in operation. The program nevertheless stipulates switching all the enterprises in this decade to closed water-supply. This will reliably protect the river from industrial pollution."

N. Bakhtin, director of the zonal administration of the Siberian observatory of hydrometeorology and control of the environment:

"We who live on the shores of the Yenisey and its 20,000 tributaries, and this is over 3.5 million people, consider ourselves to have the greatest water supply in the country, which has excellent taste qualities.

Even without seeing, but only becoming acquainted with the "calling card" of the Yenisey one can judge its potential power. The river extends 4,100 km from south to north. On this course it does not simply traverse through the natural-climate zones of Central Siberia, from the mountain forest to the tundra, but fulfills the role of a unique Gulf Stream, a powerful heater which has received a solid thermal charge in its southern course. Every second the river gives 17,000 m³ of water to the North Arctic Ocean. This is double the potentiality of the Volga. The total annual run-off of the Yenisey system is one-fifth of all the water resources of our country's rivers. The energy potential of the Yenisey is colossal. It is estimated at 600 billion kW-h, that is, about 30 hydroelectric power plants like the Krasnoyarsk can be built here."

S. Fomin, head of the Yenisey river steamship company:

"The total length of the water mains of the Yenisey system that is suitable for shipping is 10,000 km. Our annual navigation under conditions of the harsh Siberian climate only lasts about 140 days. The time is short and the tasks are great. This is why, by constantly increasing the intensity of traffic and the tonnage of the shipments, the steamship company succeeds in delivering to its customers over 21 million T of different freight, of which one-third is lumber.

During the last decade, we equipped all the ships, and there are about 1,300 of them, with units for waste recovery. Eleven centers to collect fuel residues and garbage have been set up in different areas of the basin. Their number will rise in the near future. However, whereas in this respect the threat of water pollution has been reduced to zero, the problem of shipping lumber has not been absolutely resolved. We transport a considerable part of it on rafts. According to the "Clean Yenisey" program, the steamship company will receive from the ship-builders the necessary number of barges in the near future. This will allow us to eliminate pollution of the river which is inevitable in floating logs."

SURA RIVER POLLUTION DEPLORED

Moscow SOVETSKAYA ROSSIYA in Russian 26 Aug 81 p 2

[Article by N. Demidov, our special correspondent: "Dark Waters of the Clear Meadow"]

[Text] The misfortune occurred unexpectedly. Until now the enterprises had not discharged such a quantity of pollutants into the Sura which unhurriedly rolls over the Penza land. It was as though a volley hit the river. The fish suffocated and became sick. Then the *Aspius aspius* disappeared. Some remember those times here when people used to go with fishing rods to the Sura shores for the dainty sterlet. There are no more sterlet, because like the *Aspius aspius* they like very clean water.

"Mass death of fish occurred in the river 16 years ago," relates the senior state inspector of fish protection for the Penzenskaya Oblast N. I. Polosin. "The plant of medical preparations and certain other industrial enterprises discharged a large dose of production wastes into the Sura. The river still cannot set itself right from what happened. Pollution of the river continues. See for yourself."

We set out from the sources of the Sura along its course together with specialists of the Penza hydrochemical laboratory of the RSFSR Ministry of Land Reclamation and Water Resources, the oblast inspection of fish protection and the sanitary-epidemiological medical station.

The twisting rivulets rush towards the Sura just like blue veins on a hand. I. N. Baranov, inspector of fish protection, knows every one of them. The small rivulets are the Staritsa, Vyaz' and Uza. But they give strength to their older sister. Unfortunately it is not only fed by water. Even at this place, almost at the upper reaches, the river is polluted above any standards. The city of Kuznetsk alone spills thousands of cubic meters of untreated effluent here every day.

According to the data of the Penza hydrochemical laboratory of the RSFSR Ministry of Land Reclamation and Water Resources, 63% of the waste water discharged every day is not sufficiently purified.

What is the essence of the problem? It is the fact that a whole group of enterprises of industry and agriculture operate in an old fashion. Their leaders are generally only concerned with fulfilling the plan and forget about environmental protection measures. How else to explain the fact that none of the alcohol plants

in the oblast has any treatment works at all. We did not see any specific, substantiated plans there for construction of water-protection facilities.

The major polluter of the Sura remains TETs-1. Analysis showed at the site where it stands that the content of suspended particles in the water exceeds the standard. Not only the sterlet, but also the simple roach would die here. The enterprise is not concerned at all. In such situations they sometimes respond: "We have no means." The construction of treatment works in the production association "Penzakompressormash" is postponed from year to year because of a lack of financing. Despite this, the planning documents have been available for a long time.

Other enterprises have compiled plans for water protection, and they have the money, but still the situation is stalemated. In the association "Penztekstil'mash" the treatment works were built back in 1966. But they have been abandoned now and they are in an extremely unsatisfactory condition.

The agricultural enterprises are a cause of great concern. They do not have water-protection structures. Such economically large kolkhozes as "Vpered k kommunizmu," "Rossiya," of the Lunino region have a powerful material and technical base. But the animal husbandry complexes that were built according to modern plans, for some reason do not have treatment facilities. Other farms in the association "Svinoprom" also do not have them.

Perhaps the oblast interkolkhoz construction association would give perceptible help to the oblast farms? Hardly. The polluted effluent from the hydrolytic industry of the Kaladinskiy experimental lumber kombinat of the RSFSR Ministry of Forestry has been dumped into the Teshnyar' River, a tributary of the Sura, without treatment for a long time. At the same time, the lack of treatment works holds up start-up of facilities to produce 3,000 T of protein yeasts per year which are extremely necessary for the oblast agriculture. The start-up schedule for the facilities was 1979.

It cannot be said that construction of treatment works is not underway anywhere in the oblast. They have been erected in recent years at the plant "Mayak revolyutsii," the Kamenskiy meat kombinat, the Sura cloth kombinat "Krasnyy Oktaybr'." However, what is the benefit of this when the neighboring enterprises and farms pour their discharges into the purified water? It happens that on some sections the river is protected from pollution, while nearby it is given a new volley of production wastes. An entire complex of measures is needed to protect the waters. It is difficult to preserve the reservoirs alone.

It is characteristic that the water-protection facilities at many enterprises are not in suitable condition because of incorrect operation. Quite recently there was an erosion of the pins and waste water entered the Vyazovka River because of a lack of attention and negligence on the part of the specialists of the oblast's largest sovkhos "Pankratovskiy." The result was mass death of fish, and damage totalling R 16,000. Of course the guilty parties were punished. But is this really the only problem?

According to the data of the oblast state inspection of fish protection, a whole series of cases of fish deaths were recorded in the last five-year plan because of discharges of polluted effluent. The material damage to the state was about R 300,000.

How many fish this is. The moral side to the problem is no less important. For hundreds of years people have found the Sura shores to be a place for vacation, and have delighted in the picturesque places and the clean water. And now? The residents of Penza do not get much pleasure on the beaches. "Svetlyaya polyana" (Clear Meadow) is the channel reservoir of the Vyad' River. It is the recreation area of the city workers. But the water here is far from clear, because the Vasil'yevskiy poultry plant discharges untreated effluent nearby. Why does this not disturb the gorsovet?

The treatment works of the city itself are overloaded. What is not successfully "clarified" is emptied into the Sura through an emergency outlet, tens of thousands of cubic meters of dirty water.

A technical plan with estimated cost of R 17.6 million that was approved almost 5 years ago has been developed to expand the treatment works and the sewer system of Penza. How much has been assimilated by now? Only R 2 million. No significant changes are foreseen.

The situation is no better in other cities of the oblast. In Kuznetsk, where the misfortune of the Sura begins, capital for construction of water-protection facilities in the 10th Five-Year Plan was only assimilated by 4.5%, and in Serdobs'k by 33. By the way, R 35,000 have been allocated for 1981 with estimated cost of the treatment works of over R 3 million. At such rates, the Serdoba River will be clean in exactly 100 years!

"It is not enough that the problem of the treatment works remains an acute problem," notes the deputy head of the Penza hydrochemical laboratory V. V. Anan'yev, "but the engineering-protective work on the Sura is going wretchedly."

A whole series of organizations control the condition of reservoirs in the oblast, primarily the state inspection of fish-protection, the hydrochemical laboratory, and the sanitary-epidemiological medical station. They apply stringent sanctions to the violators and fine those guilty of polluting the rivers. In 6 months alone, 93 leaders and specialists of the enterprises have been deprived of bonuses. But can the situation be corrected with numbers alone?

"The oblast party organizations in recent years have strengthened attention to guaranteeing the proper protection of the reservoirs," we were told by the secretary of the Penza party obkom B. F. Zubkov. We clearly see the 'root of the evil' and are waging a relentless struggle to eradicate it. We are concerned with the fact that for many builders, the construction of treatment works, as they say, does not make the plan, there is a lot of 'unprofitable' earth-moving and installation work."

In the total volume of work to be done by the "Penzasel'stroy" of the RSFSR Ministry of Rural Construction, the water-protection facilities comprise less than 6%. But in the last 3 years the plans for their construction have not been fulfilled even once.

According to the data of the oblast statistical administration, the assimilation of capital investments for protection and efficient use of water resources at the oblast enterprises was:

20% at the Penza radio plant, 25% at the plant of medical preparations, 15% at the trust "Ptitseprom," and 9% at the plant "Krasnyy gigant." None of the 14 major enterprises has reached fulfillment of the plan even by half.

A question about the condition of the Sura and its basin was recently heard at the meeting of the RSFSR Committee of People's Control. The individuals responsible for polluting the waters were strictly punished. This problem will also be examined by the oblast people's controllers. Last year the CPSU obkom adopted a decree to set up a special committee on the Sura. It is a necessary and urgent matter. However, it still only exists on paper and has not reached practical steps. Everyone knows about the misfortune of small rivers. No one disputes that they need the most rapid and effective help. But, on the other hand, decisions have been made in the oblast to set up a committee, and this was lulling. Stagnation and inertia have extinguished the initiative.

It goes without saying that the water in the Sura has become somewhat cleaner in the last 2 years because of the energetic efforts of the enthusiasts at certain enterprises. But it is somewhat cleaner, not clean! This is why it is necessary to have specific and comprehensive measures for protection of the Sura and its basin. However, will the solution to the problem be the creation of such a committee only in the Penzenskaya Oblast? The river flows farther, through the Ul'yanovskaya Oblast, Mordovskaya and Chuvashskaya Autonomous Republics, falling into the Volga. So that the important tributary of the mother of Russian rivers is full and has clean water, an interoblast agency is needed which would coordinate the actions to protect the Sura over its entire course.

From the editor: Sharing concern for the Sura, SOVETSKAYA ROSSIYA appeals to the party, soviet agencies, and the leaders of the industrial and agricultural organizations of the Penzenskaya and Ul'yanovskaya Oblasts, the Mordovskaya and Chuvashskaya Autonomous Republics to discuss the possibility of creating a coordinating center and a committee on the Sura river. Only collective control over the fulfillment of water resources, and a collective solution to the problem of this river and its basin can be successful. The editorial staff is ready to participate in setting up the committee, taking upon itself the commitment to form the public opinion, and to fulfill the controlling functions. At the same time we invite the readers to share their opinions and suggestions on this question.

9035

CSO: 5000/3

KIRGHIZ GOVERNMENT RESOLVES TO CLEAN UP LAKE

Frunze SOVETSKAYA KIRGIZIYA in Russian 12 Sep 81 p 2

/Article: "So that the Issyk-Kul' Remains Blue"/

/Text/ /The articles published in SOVETSKAYA KIRGIZIYA entitled "Problems of a Resort Town" (3 June 1981), "Around the Lake" (9 June 1981), and "The Lake Should Be Clean" (8 July 1981) evoked a large public response. The Kirghiz SSR Council of Ministers, after examining the newspaper's published articles, noted that the alarming facts set forth therein correctly reflect the state of affairs with regard to the environmental protection of the Issyk-Kul' area, and they reveal the causes which are hindering the full-valued rest and recreation of the working people. In an adopted resolution the republic's government has mandated the appropriate ministries and departments to step up their monitoring of the lake's protection, to apply the strictest measures to those guilty of polluting it. But what is actually being done along these lines? Let's analyze the responses which have been sent to the editors./

/in boldface/

According to information provided by the deputy chairman of the Issyk-Kul'skaya Oblast Soviet Ispolkom, E. Sadykov, shifting the centers of the livestock-raising areas is being conducted just as slowly as before. In only 36 out of 130 sanitation institutions are KU /Commission for Improvement/-type facilities operational, and only in 15 are they under construction. But what is the position taken by the oblispolkom itself in this matter? It is not clear from the letter. For example, the Kirghiz Republic Council on Tourism and Excursions noted that construction of a KU-200 purification facility has been started at the Ulan Tourist Center. Complete units of the KU-200 type have been brought to the Kyrchyn and Issyk-Kul' Tourist Centers, and the planning specifications have been prepared. But up to now the area of the Issyk-Kul' Tourist Center has not been legalized and does not measure up to the necessary sanitary-hygienic standards. Despite the acute need, the problem of its expansion has not been resolved. Nor has the question of the removal of the land section under the construction of the purification facility been implemented and resolved. And just who should supervise all these matters?

The Frunze Footwear Production Association responds that the plans and estimates for the Aist Rest and Recreation Center have been worked out, and construction has begun on the purification facilities at an estimated cost of 150,000 rubles. A number of projects have been carried out with respect to improvements and landscaping. The dining-room with a seating capacity of 350 has been modernized, as well as individual residential cottages and other areas. The association's management has undertaken measures to prepare this rest and recreation center in time for the new season.

For the Asel' Sports-Hygiene Camp of the Kirghiz Women's Pedagogical Institute the cost-accounting group of the Issyk-Kul' Rayispolkom has worked out the architectural and planning assignments for the design and construction of the KU-200 local purification facilities. In accordance with a decision by the Kirghiz SSR Gosstroy, Kirgizkommunproyekt has planned the attachment of a compact unit for purifying the waste water, as well as the improvement and landscaping of the institute's sports-hygiene camp. The republic's Ministry of Higher and Secondary Specialized Education is considering the question of working out planning estimates for the KU-200 facility and the construction of the camp.

However, the Ministries of Trade, Housing and Municipal Services, Construction, Construction Materials Industry, Motor-Transport and Roads, Food Industry, the Kirghiz Consumers' Union, and the State Committee for Agricultural Equipment have still not done enough to prevent the pollution of the Issyk-Kul' Lake Basin. For example, the fact that until this day the town of Rybach'ye has a sewer system operating in accordance with a simplified schema is primarily the fault, in the opinion of the Issyk-Kul' oblispolkom, of the Ministry of Construction and the Ministry of Housing and Municipal Services.

But the fact is that in Przheval'sk itself to this very day they have not put municipal-type purification facilities into operation, although the state commission's act concerning their adoption was signed as far back as the beginning of the current year. Every year the Ministry of the Meat and Dairy Industry interrupts the task of modernizing the purification facilities. During the present year 230,000 rubles were earmarked for this purpose, but they have not been utilized. And what lies behind this sentence from a response by the deputy minister of the Meat and Dairy Industry, D. Chokoyeva, to the editors: "We are constantly monitoring the operation of the purification facilities of enterprises which are located in the Issyk-Kul' zone"? The deputy chairman of the oblispolkom, Comrade Sadykov, has also informed us that the decision has been made to allocate in the town of Cholpon-Ata an area right near the hydro-chemical laboratory. All the trouble was that this decision had been suspended in mid-air.

"In order to carry it out," states the chairman of the Cholpon-Ata Gorispolkom, B. Tursunaliyev, "we must build up this area and receive the proper limits for this purpose...."

The Ministry of the Meat and Dairy Industry, in turn, has informed us that the purification facilities at the Anan'yevskiy Cheese-Making Plant will begin to function effectively only at the end of the current year, when the ventilating fans, which are in short supply, are installed. Operation of the Przheval'skiy Slaughterhouse and Sausage-Making Center has still not been set aside. In the response,

unfortunately, there was no thorough analysis of the work of the PKTB [Planning and Design Technical Office], in accordance with whose plans the purification facilities are being built, and, as has become obvious from practice, the time requirements have not always been taken into consideration.

The deputy minister of agriculture of the Kirghiz SSR, A. Bersenev, explains the reason for the slow shifting away from the lake shores and river banks of the livestock-raising farms, sheep pens, and purchase points by the unsatisfactory work of the contractual construction organizations. But what about the role being played by the ministry itself in the expansion of this problem?

A pro forma written answer was sent to the editors by the chief engineer of the Kirgizavtotekhnobsluzhivaniye Republic Production Association, V. Danilov. He considered it feasible to inform us that a standard technical-services station had been put into operation in Przheval'sk as far back as 1974 and that it, he says, is producing technical services and other operations. Yes, so it should be, although correspondence published in the pages of this newspaper has irrefutably proved that this station is not functioning. Could it be that the necessary measures were adopted very recently? No, unfortunately not. As the Issyk-Kul' State Water Inspection Office has informed us, the system of circulating water supply does not operate with the purification facilities to this very day.

The manager of the Issyk-Kul'stroy Trust of the Kirghiz SSR Ministry of Construction, V. Galchev, has assured the editors that the idea of creating a specialized construction and installation administration in the Issyk-Kul' area for the purpose of building communal-type projects (purification facilities, collectors, water drainpipes, etc.) has been approved. But, you know, it is high time to make the transition to its practical implementation! What is the opinion of the ministry itself on this score?

The responses to the editors' inquiries also speak about the fact that at the Ulan Tourist Center the first stage of a new dining-room with a seating capacity of 300 has been put on line and is functioning. Also that the Kirgizdortransproyekt Planning Institute, as the Ministry of Motor Transport and Roads has informed us, is drawing up the plans for a passenger-car center in the town of Cholpon Ata for a capacity of 150 automobiles. Construction of the passenger-car center is provided for inclusion within the capital-investment plan of the 11th Five-Year Plan. The Kirghiz SSR Minister of Trade writes that capital investments are being channeled primarily into the construction of a fruit center, warehouses, including foodstuff warehouses in the towns of Cholpon-Ata and Rybach'ye. All this, of course, is fine. But here now the funds for building stores, restaurants, and dining-rooms at the expense of deductions from housing construction are being earmarked and utilized by the Cholpon-Ata Gorispolkom in an obviously unsatisfactory manner.

Of course, here and there some things are being accomplished. At the Ak-Chardak boarding facility and the Burevestnik Pioneer Camp repairs and construction work have been carried out on all cottages (camp-sites), a well has been drilled for everyday needs, four temporary cabins have been removed, a separation has been made in the pipeline in order to water the entire area with fountains, five Skazka-type cabins have been built, etc.

But, as may be seen from the responses sent by various departments, the health-resort town of Cholpon-Ata and the entire Issyk-Kul' area still have quite a few problems which require the most rapid possible solution. They must be tackled now, without waiting for the start of the new season.

This zone, which has been proclaimed an All-Union health resort, must fully measure up to its own intended purpose. In answering for the purity of the lake, for its waters remaining blue, the entire republic, all departments and local authorities are called upon to constantly and effectively monitor the preservation of the environmental purity, to guarantee the unconditional execution of the appropriate tasks which have been specified by this republic's CP CC and by the Kirghiz SSR Council of Ministers.

And now, when the summer-autumn recreational season is coming to an end, and when there are fewer people on the shores of the Issyk-Kul', is the best time to tackle this matter in earnest. The lake can and must remain pure!

2384

CSO: 1830/17

GEORGIAN WATER-PROTECTION VIOLATORS WARNED

Tbilisi ZARYA VOSTOKA in Russian 2 Sep 81 p 1

[Article from GruzINFORM: "For Cleanliness of the Republic Reservoirs"]

[Text] The basins of the Black, Azov and Caspian Seas are being polluted much less from the Georgian territory thanks to the implementation of a comprehensive environmental protection program planned by the party and government. To execute the decrees of the all-union directive agencies, in the last five-year plan alone sewage system structures were started up in the cities of Gagra, Pitsunda, Samtredia, Tskhaltubo, Batumi, Kutaisi and Chiatura with total output of 286,000 m³ of waste water per day, including 140,000 m³ per day for biological treatment.

At the same time, the Georgian Communist Party Central Committee, after examining the question of the course of fulfillment of the appropriate decrees on protecting the basins of the Black, Azov and Caspian Seas from pollution, noted that the sanitary condition of the republic reservoirs and the coastal zone of the Black Sea in limits of the Georgian SSR still remains unsatisfactory because of the continuing discharge of a large volume of waste water.

Construction of the sewer system structures was not completed in 1976-1980 in 10 of the 16 cities and population centers stipulated by the decree, including Poti, Gudauta, Novyy Afon, Makharadze, Kobuleti, Tsakhaya, Borzhomi, Lanchukhti, Abastumani and Dzhava. As a consequence of the incomplete development of the sewage system network, none of the republic cities has completely stopped discharging untreated waste water.

The assignments have not been fulfilled for stopping discharge of untreated waste water by the Zestafoni plant of ferroalloys, the Kutaisi automotive plant, the Sukhumi and Poti marine trade ports of the Georgian marine steamship company, the Gardabani cannery of the Georgian SSR Ministry of the Fruit and Vegetable Industry, the Tbilisi hosiery plant of the Georgian SSR Ministry of the Light Industry, the Telavi shale-marble kombinat of the Georgian SSR Ministry of Construction Materials Industry, the Tsnori passenger autotransportation enterprise of the Georgian SSR Ministry of Automobile Transportation and the Tbilisi Scientific Research Institute of Vaccines and Sera of the USSR Ministry of Public Health.

Capital investments totalling 23.4 million rubles were not assimilated during the 10th Five-Year Plan because of the low rates of construction of water-protection facilities.

Gross violations of the operating regulations have caused the malfunctioning of the treatment works in a number of facilities of the Georgian SSR Ministry of Public Health, the Bolnisi and Tsiteli-Tskaro regional hospitals, the tuberculosis sanatorium in Tsemi, the industrial association of the Georgian SSR "Samtrest": the Manavskiy, Kindzmaraul'skiy and Ikaltoyskiy wineries, of Tsekavshiri; the Bolnisi bread kombinat, of the Georgian SSR Ministry of Construction Materials Industry: the Gardabani cardboard roofing material plant, Liloyskiy kombinat of construction materials, of the Georgian SSR Ministry of the Fruit and Vegetable Industry: Tamarissskiy and Marabinskii canneries.

A number of ministries and departments are accepting incomplete treatment works for operation.

The Georgian SSR Ministry of Residential and Communal Services and the ispolkoms of the soviets of people's deputies of the cities and regions do not guarantee effective operation of the treatment works and do not provide them with skilled service personnel. Sufficient capital and mechanisms are not allocated for the repair of the treatment works.

The Georgian Communist Party Central Committee and the Georgian SSR Council of Ministers consider the fulfillment of measures to stop discharge of untreated waste water into the republic reservoirs to be unsatisfactory. These measures were stipulated by the decrees of the directive agencies.

The attention of the Abkhazskiy, Adzharskiy and Yugo-Osetinskiy party obkoms, the councils of ministers of the Abkhazskaya ASSR and the Adzharskaya ASSR, the ispolkom of the soviet of people's deputies of the Yugo-Osetinskaya AO, the Tbilisi, Rustavi and Poti party gorkoms and ispolkoms of the corresponding city soviets of people's deputies, the Makhardze, Lanchkhuti, Tskhakaya, Adigeni, Borzhomi, Khashuri, Mtskheta, Dmanisi and Dusheti party raykoms and the ispolkoms of the corresponding regional soviets of people's deputies has been focused on the lack of proper control over the fulfillment of the party and government decisions regarding questions of protecting the water resources from pollution. They are obliged to examine the course of construction of the water-protection facilities and give these construction sites comprehensive assistance.

It has been taken into consideration that the GSSR Ministry of Residential-Communal Services jointly with the GSSR Gosplan, the Main Administration for Major Construction under the GSSR Council of Ministers, the GSSR Gosstroy and the State Committee of the GSSR for Environmental Protection have formulated a draft solution which guarantees complete halting to discharge of untreated waste water into the basins of the Black and Caspian Seas in the limits of the GSSR by 1985.

The ministries, departments, enterprises and organizations of the republic have been entrusted with taking additional water-protection measures to stop the discharge of untreated production waste water.

The Georgian Communist Party Central Committee and the GSSR Council of Ministers have concentrated the attention of the head of the Main Administration for Major Construction of the GSSR Council of Ministers Comrade Zautashvili and the deputy minister of construction of the Georgian SSR Comrade Mandzhganladze on the interruption in the operation of facilities because of the untimely supply of necessary equipment, planning-estimate documents, structural parts and materials to the

construction sites. They have warned them that they will be personally responsible for this.

The deputy ministers: of public health Comrade Gogichadze, of construction materials industry Comrade Bezarashvili, of agriculture Comrade Chikvaide, of rural construction Comrade Gogeliya, of light industry Comrade Apakidze, of the fruit and vegetable industry Comrade Zodelava, of automobile transportation Comrade Melikishvili, deputy chairman of the board of Tsekavshiri Comrade Shotniashvili, manager of the trust "Gruzgidroenergostroy" Comrade Tsiskarishvili, head of the Georgian marine steamship company Comrade Chkheidze, head of the industrial association of the Georgian SSR "Chay-Gruziya" Comrade Malazoniya, head of the industrial association of the Georgian SSR "Samtrest" comrade Loladze, director of the Zestafoni plant of ferroalloys Comrade Kashakashvili and the director of the Kutaisi automobile plant Comrade Kharevava have been warned that together with the corresponding services they are personally responsible for the implementation of the water-protection measures planned by the party and government decrees.

It has been suggested that the procurator's office of the Georgian SSR strengthen the procurator's inspection of observance of the requirements of the law on protecting reservoirs from pollution.

The State Committee of the GSSR for Television and Radio Broadcasting, the editors of the newspapers KOMMUNISTI, ZARYA VOSTOKA and SOPLIS TSKHOVREBA and GruzINFORM have been entrusted with systematically organizing transmissions and publications of materials under the heading "Cleanliness for the Georgian Reservoirs."

The Georgian Communist Party Central Committee and the GSSR Council of Ministers have also planned a number of other specific organizational and political measures to guarantee the cleanliness of the republic's reservoirs.

9035

CSO: 5000/2

ATTEMPTS CONTINUE TO KEEP KARA-DAG AS SANCTUARY

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 1 Sep 81 p 4

[Article by I. Serkov: "Kara-Dag Asks for Protection"]

[Text] Neither the closeness of individual apartments, nor the cafeteria lines disturb the people who rush here, for Koktebel' means the sea, the sun, and finally, Kara-Dag.

Two years ago, Kara-Dag, its slopes, its bays and beaches, its unclouded sea, and all the adjacent territory were closed to visitors.

"What kind of sanctuary is this that does not allow people!" many people said indignantly, forgetting the meaning of the word "sanctuary." It turned out that the reason was simple, Kara-Dag was tired of people.

"Precisely, tired!" says candidate of biological sciences Valeriy Vladimirovich Trusevich, scientific secretary of the Kara-Dag department of the Institute of Biology of the Southern Seas of the Ukrainian SSR Academy of Sciences. "There is an "agitation factor" in ecology. This is constant pressure on nature on the part of man. Trampling of plants, campfires, garbage, all of this, like a press, crushes nature. A type of undeclared war begins, in which, alas there are no victors, only the vanquished. The least adapted flora and fauna disappears. More stable organisms, for example, thorns, appear."

Kara-Dag has been used for dozens of years without caution, rapaciously and constantly. The unique natural complex was annihilated, and thousands of people, at times sincerely considering themselves lovers of nature, did not seem to understand their destructive role.

Kara-Dag is the only volcano in Europe of the Tertiary epoch, more precisely, its fragment. A powerful eruption took place here 150 million years ago which split off part of the mountain range and revealed a crater and the foot of the volcano. Kara-Dag became a unique manual on volcanology of which there are practically no analogs.

But this is not the only reason for its uniqueness. All the living forms existing here were united into a unique ecological structure, whose comprehensive study could yield astounding scientific results. This only became possible now, with the opening of the sanctuary, or if you want, the "closing " of Kara-Dag. By a

decree of the Ukrainian SSR Council of Ministers, Kara-Dag has been proclaimed a scientific sanctuary in which any industrial use and open visiting is completely forbidden. It was impossible to postpone the decision any longer. Dozens of species of flora, including the especially valuable ones, the relicts, have already disappeared. There are no more large predators here, and many types of birds have stopped nesting.

The Serdolikovi bay where the carnelians, agates and chalcedonies lay under foot of ~~sand~~ ^{summers}, is completely depleted. Any searches for the minerals today are useless. There were unique gem veins at Kara-Dag in the not too distant past. Now there is not even one intact! The reason is simple. The collectors and lovers of stones tried to carry home these natural souvenirs. Whole crews of developers "worked" here sometimes, extracting minerals on almost industrial scales. Until now the "experts" were poking about the Koktebel' beaches offering rings with Kara-Dag stones. Why mention them when a quite legitimate state workshop was opened in Planerskoye and Kara-Dag gems were sold?!

But, of course, we are not only involved in protection. One of the main goals of the sanctuary is to make an inventory of the flora and fauna, including marine. The scientists are working on this now. The first results of the "sparing" regime are already visible. Certain bird species that had disappeared have appeared. For example, six pairs of crested cormorants that have been entered in the Red Book have settled in the L'vinii bay. Only 400 pairs of these birds have been counted in the entire world. Attempts are being made not to disturb them. Observations are made from sea, far from the shore through binoculars.

There are a lot of difficulties with the birds in general. An enormous number of crows and magpies have appeared at Kara-Dag. These predators destroy nests, destroy eggs and the fledgelings of the disappearing species, creating irreparable ecological "niches." They came here after the people: garbage, refuse and scraps of food attract these birds. After the most cosmetic clean-up, five(!) trucks of garbage were removed from here.

"In a word, the sanctuary has been created, but the 'undeclared' war continues. Tens of thousands of workers vacation in Planerskoye every year. The majority of the them, some from curiosity, and some simply on "picnics" set out for Kara-Dag for diversion. It is our task to stop this wave," says Trusevich.

The hunters for the time being manage with difficulty, though with variable success. Crowds of tourists keep "penetrating" the sanctuary, sometimes 30-40 of them. How can a hunter stop them?

The Kara-Dag bays and beaches which need a long rest, attract people like a magnet. The narrow 6-kilometer strip is literally exhausted by many years of forays. The position of the oblast leaders is surprising for another 7 kilometers of magnificent, undeveloped and not very trampled beaches stretch after Kara-Dag. There are picturesque bays and clean sea. What would it cost to bring water here, set up the basic conditions for recreation for people, and make a road? These measures would be compensated for in almost a year, and it would be a great help to the sanctuary.

It is now as though we are returning a debt to nature. This needs to be done cautiously, with humaneness and concern. How nature will respond is a matter for the future.

We walked a narrow path, now taking off to the rocks, now descending to the very surf, and the strong, wiry hunter Vladimir Pavlovich Morochko, despite his 52 years, adroitly maneuvered among the enormous boulders.

"There are only rocks all around. Is it not boring for you here?" I asked.

"If only it were! People come here and some of them fall. It is true that Kara-Dag has been closed. You say to some 'tourist': What are you doing here, why are you behaving like a hooligan? And he answers: It does not matter to me, I will not come here anymore! Are these really people? Everything here is beauty, everything is alive. You see that rock over there, it is called the 'rock of Kuz'mich.' A carpenter lived here who was called Kuz'mich. He once went fishing. They waited for him at home but he did not return. They went after him. They arrived but he was dead. He lived 102 years but died here on this rock. This is why the bay and rock are called Kuz'mich. I would like it to be that way, to spend my whole life with Kara-Dag."

9035

CS0: 5000/2

VARIOUS SOLUTIONS TO AIR POLLUTION EXAMINED

Moscow PRAVDA in Russian 30 Aug 81 p 3

[Article by V. Vintsevich, expert of Glavgosekspertizy of the USSR Gosstroy and A. Lavrenevskaya, engineer: "Stack Higher than the Television Tower"]

[Text] [Text] Further development of metallurgical industries, their broad technical re-equipping, as well as improvement in environmental protection measures stipulated by the 26th CPSU Congress make it urgent to improve the quality of the plans for construction and reconstruction of the enterprises in this sector with regard for environmental protection requirements. These enterprises make a large "contribution" to environmental pollution. Analysis of many plans indicates that the environmental protection measures taken in them are insufficient in a number of cases.

Scientific achievements make it possible to compute the concentration of harmful substances which will enter the atmosphere in the form of production wastes even before a plant is built. Production processes have also been developed which guarantee the maximum use of raw materials and fuel and produce the minimum of wastes which pollute the environment. It is therefore quite possible to make a qualified selection of both the types and the output of the treatment works needed for a given enterprise even at the developmental stage.

The metallurgists of the Khartsyzsk pipe plant in the Donetskaya Oblast have found an interesting solution to atmospheric protection, for example, They need carbonic acid to weld pipes. Its annual consumption reaches 1,500 T. The acid is shipped to the plant by trucks from the Tul'skaya Oblast. This is expensive and at times causes interruptions in the supply. Thus, the annual cost of the truck trips has increased the net cost of the product by 47,200 rubles. At the same time, the plant has a boiler house which discharges exhausts into the atmosphere, polluting it, although these gases can serve as the raw material for carbonic acid production. The institute "Giprostal" and "YuVEnergochermet" have developed the draft of a carbonic acid station for the plant which uses this raw material. The planned unit not only will provide for the needs of the pipe welders, but will also allow them to sell carbonic acid to other consumers. The annual economic effect of the future station will be R 385,000.

The technical plans for the expansion of the West Siberian metallurgical plant that was drawn up by the institute "Sibgipromez" takes into consideration all the sources of harmful emissions from active and newly started-up facilities. For each of them it stipulates improvement in the "ecologicalness" of the production processes, equipping with units for purification of exhausts, and considerable reduction in harmful emissions.

The experience of the Novolipetsk plant also deserves attention. They have begun to optimize the distribution of different types of fuel between the plant units. This reduces emissions into the atmosphere.

The Institute of Chemical Physics of the USSR Academy of Sciences has developed a basically new method for obtaining sulfuric acid by liquid-phase oxidation of sulfur dioxide at high temperatures. Its productivity is a 100% higher than in the traditional tower method and completely eliminates any harmful effect on the biosphere.

Similar achievements of the scientists need to be widely employed in the plans. It is also necessary to more actively create closed production cycles for industries. The air is reused many times in them and is not discharged into the atmosphere. All the wastes stay in the process.

It is impossible not to consider that protection of the air basin means even more efficient use of resources and a prudent attitude towards them. The positions of certain planning institutes which recommend without sufficient grounds that the power units of the metallurgical plants be switched to natural gas heating are thus debatable. Nitric oxides are formed when natural gas is burned. The plans have also not yet resolved the questions of comprehensive recovery of sludge. At the same time, industries are already operating abroad on comprehensive reprocessing of sludge from the steel-smelting and blast furnaces. The phosphorus, sulfur, cadmium and zinc are extracted from it, while the residues with high iron content after reprocessing are made into briquets or sent to the metallurgical industry.

A number of planning institutes (Gipromez, Ukgipromez, Giprostal') are actively searching for and placing into the drafts effective means of protecting the air basin from pollution. They can be of perceptible benefit to the national economy. But they are not always realized. Departmental barriers become one of the obstacles on this path.

For example, fluorine is released during melting of aluminum. Powerful and expensive fans are installed in the shops for sanitary reasons, to protect the personnel from its harmful effect. The gas is removed beyond the limits of the production areas and scattered in the atmosphere. Fluorine is a most valuable raw material at the same time. Chemists are spending a lot of capital in their enterprises to obtain fluorine. They could get by without these ways if the electrolytic baths where fluorine is released were made impermeable but the metallurgists are only concerned with their business. They do not need fluorine. They get rid of it in the simplest way, they discharge it. The metallurgists often act in the same way with sulfur oxides they do not need. These oxides are the basis for sulfur dioxide production.

A number of plans still stipulate dispersion of harmful gases into the upper layers of the atmosphere. The stacks of many metallurgical plants rival television

towers in height, reaching record marks, 250 meters. Of course, the higher the smokestack is, the lower the concentration of harmful emissions and dust in the near-earth layers of the atmosphere. But the air basin is not actually freed of pollution. It is simply scattered on vaster areas. It should also be taken into consideration that the cost of the smokestacks reaches hundreds of thousands and even millions of rubles.

Is this necessary? Take, for example, the technical and economic substantiation of environmental protection measures for the city of Zhdanov made by the Zhdanov branch of the institute "Ukrghiprommez." This is a major industrial center where there are many enterprises which discharge carbon, sulfur and other substances into the atmosphere. The planners revealed sources of pollution of the air and other media, developed specific environmental protection recommendations, and defined the cost of the protective measures. It was scientifically substantiated and computed at the same time what should be done and what outlays were required to have clean air in the city. It is naturally impossible to do everything at once. Efforts and resources need to be directed first to those areas where the main polluters are operating. A unified technical and economic substantiation was oriented on this and it became the guide for action for the city organizations.

It seems that the useful experience of the Zhdanovites is worthy of the greatest dissemination. Now the sections of the plans which are called "environmental protection" are limited at times to the particular measures which eliminate individual emissions of neighboring enterprises. The development of a unified plan which encompasses the region as a whole will help to eliminate the departmental barriers, will facilitate sanitary control and will improve the condition of the atmosphere. Otherwise it is easy to disperse a lot of the capital which the state allocates for environmental protection.

The development of comprehensive environmental protection plans, of course, suggests close cooperation of the planning institutes and the local soviets of people's deputies.

The decree of the CPSU Central Committee and the USSR Council of Ministers "On Additional Measures to Strengthen Environmental Protection and Improve the Use of Natural Resources" is aimed at implementation of comprehensive measures specifically, and stipulates the need to work out territorial environmental protection plans. It would not be an exaggeration to say that the primary role in this matter belongs to the plans. They should be assessed, in our opinion, with regard for the fact of how successfully they resolve the questions of comprehensive purification of harmful emissions, and the use of products which can be obtained from them.

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CSO: 5000/4

AIR POLLUTION AFFECTS VILNIUS' CLIMATE

Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 23 Jul 81 p 4

[Article by L. Rodzinskiy: "The City Breathes"]

[Text] It is hot. The unmerciful sun has been heating the houses and streets since early morning. It is as though even time is stuck in a thick haze of heat. "We would rather it was evening or night with their life-giving coolness!" we urge it on. The sun hides behind the horizon, leaving the sky with stars, but the desired relief does not come. It is as though the streets of the city are a cooling furnace which puffs heat deep into the night. Why does this happen?

"It is customarily thought that the nocturnal stuffiness is a direct consequence of the diurnal heat," relates D. Perkauskas, a colleague from the radiological laboratory of the Institute of Physics of the Academy of Sciences of the Lithuanian SSR. "It is, strictly speaking: the roads, walls and building roofs which are heated during the day, give off the accumulated heat. This is what is surprising: some nights the buildings and the surrounding air cool off fairly quickly. On other nights, with the same temperature during the day, the desired cooling off does not occur for a long time. Why? In order to answer this question we decided to construct a mathematical model of a 'heat island'."

"Heat island?"

"Yes, the geophysicists introduced this concept. If an infrared photograph is taken from a high altitude, the earth's surface on the photographs will be presented in the form of a disturbed ocean with dark spots of 'islands,' heated air masses at the location of our cities. In certain regions where the industrial centers are located near each other, these 'islands' form whole 'archipelagos.' In contrast to normal sea islands, their outlines suddenly become blurred. They themselves can also 'stroll' over the map."

"What does this depend on?"

"On the wind."

The quarters of the city which are heated by solar rays during the day, at night give off heat to the surrounding air. Its streams rush upwards in a giant fountain, towards the clouds. Colder air masses arrive in their place from the suburbs, so

that after being heated, they are also lifted upwards. At an altitude of about half a kilometer, the warm air is cooled. Its "fountain" breaks down in all directions, returning to the earth somewhere 10-15 kilometers from the outskirts of the city. From here it again arrives at the streets.

"Actually, of course, the pattern of air mass circulation in the city area is more complicated," the speaker continues. First of all, the winds make large 'corrections' in it. If they are constant in direction, then the 'heat island' is shifted in this direction. It is most important that the winds carry off part of the heat, helping the city to 'cool off' faster. But the winds usually die down at night. And this is the cause..."

The city gives off the accumulated heat not only through convection, circulation of heated air masses. A lot of heat leaves the city quarters in the form of thermal radiation. At the same time, the uprising air "fountain" draws after it a mass of the finest dust and aerosols which are especially abundant in the industrial emissions. On those windless nights, these particles hang over the city, turning into a screen which is impervious for thermal rays. They prevent the cities from rapidly cooling off at night.

"How can we combat this phenomenon?" I ask the scientist. "We cannot artificially turn on the wind."

"The necessary measures have long been known. We have only confirmed their expediency on a mathematical model. First, we have to switch to waste-free technology which reduces to a minimum the industrial emissions of smoke and gases. In addition, the thermal pattern can be considerably improved if instead of low houses spread over the territory, we build multistory buildings. They have a much smaller heating area. Of course, it is necessary to avoid dark colors in every way possible: the actual buildings, their roofs, and even the pavements on the city streets should be made light colors which are good heat reflectors. The most important is to have more landscaping: trees, flowers and bushes absorb a large quantity of heat for their biochemical processes, releasing life-giving oxygen. This should be done not only for the sake of comfort in the cities."

"For what other purpose?"

"Powerful 'heat islands', and the more so their 'archipelagos' can disrupt the traditional routes of air mass movement above the planet. This means that serious changes in the climate will result."

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CSO: 5000/4

KRASNOYARSK GES AFFECTS YENISEY TEMPERATURE

Moscow SOTSIALITICHESKAYA INDUSTRIYA in Russian 23 Jul 81 p 4

[Article by V. Stegantsev, head of the laboratory of the branch of the Scientific Research Institute of Water Supply, Sewer Systems, Hydraulic Engineering Structures, and Engineering Hydrology: "How to freeze the Yenisey?"]

[Text] The unforeseen happened: after the Krasnoyarsk GES was started up on the Yenisey, an air hole formed 300-400 km in length below the dam every winter. It "lives" by its own laws: the frosts get stronger and the air hole shortens, while during a thaw it enlarges again. But it does not completely freeze even in the most severe cold.

Now when frosts of 35-40° come to Krasnoyarsk, the streets are submerged into a milky shroud. This "steams" the air hole on the Yenisei. Puffs of fog interfere with traffic and disrupt Aeroflot's schedule. The summer brings many annoyances to the avid swimmers: the water temperature in the Yenisey does not rise above 10-12°. Only the "walruses" swim in it.

I will not hurry to criticize the planners of the hydrosystem. According to their calculations, the length of the air hole should not have exceeded 20 kilometers. Since the hydroelectric power plant was built considerably farther from Krasnoyarsk, it did not threaten the city at all. It was only found out later that the technique used to make the calculations was not suitable for the mighty Yenisey. The same type of air hole developed behind the dam at the Sayano-Shushenskiy GES.

But these arguments are poor consolation to the citizens of Krasnoyarsk. They do not like the fact that there is no strong ice in winter. This means that the ancient transportation links between the farms located on different shores and on islands are impossible. Physicians are disturbed by the increased air humidity. During frosts they promote the development of upper respiratory diseases. The hydrologists do not like the fact that the bottom of the river has begun to be intensively overgrown with algae. In a word, there are reasons to ponder how to freeze the Yenisey.

Our calculations and estimates show that the problem can be resolved in several ways. The reservoir behind the dam has a volume of 30.4 billion m³. This is an enormous accumulator of thermal energy. Water enters from it into the turbine water lines not from the surface, but almost from 40-meter depth. It therefore practically always has the same temperature: in winter, sufficiently high not to freeze, and in

summer, too low for avid swimmers. At the same time, the flow of this water is so powerful that even after by-passing the GES turbines, it cannot immediately be mixed with the water mass behind the dam. It has to pass another 300-400 km in order to "become normal."

The decision arose from here to set up the water intake for the hydroturbines so that it did not come from the deep area, but from the surface layers of the reservoir. In these layers the temperature pattern of the water is close to the natural.

A large floating board with overhang has to be lowered to a depth of 3 meters along the entire dam from the reservoir side in order to accomplish this. The overhang must be directed towards the upper water in order to prevent the ascending streams from the deep areas from entering the water lines. This overhang should be made mobile so that the streams can be regulated depending on the water level in the reservoir. The board itself can be made of the most diverse materials, even wood.

A somewhat different solution was suggested by V. Lyapin and V. Pridorogin, colleagues from the All-Union Scientific Research Institute of Hydraulic Engineering imeni B. Ye. Vedeneyev. In their plan, the board overhang is made in the shape of a box which is held on floats. The water enters it and approaches the water intake holes. With a drop or filling of the reservoir, the box drops or rises by itself.

There is yet another plan, that of the Moscow engineer G. Maksimov. It is based on the same idea of feeding water from the surface layers of the artificial sea, only the board for this is made with "windows" opposite each water intake hole so that the water only enters the working unit. The "windows" must be opened and closed with the help of a valve.

In a word, there are many proposals. However, before any of them is implemented, a thorough calculation has to be made so that no more errors are made. Now the Yenisey will have to be frozen while the GES is operating. It is common knowledge that it does not discharge water uniformly. This means that the ice on the river will first break up, then water will be poured on it.

There are numerous such questions, but they need to be resolved. A cascade of seven hydroelectric power plants is planned for the Yenisey alone. There will be dozens of them in Siberia and the Far East. This means that even now we need to make a detailed study of the hydrothermal and ice regimes of the river after the construction of a GES.

A comment is made on the problem by the head of the integrated scientific and technical program "Study of Water Ecological Systems of the Yenisey River Basin" Corresponding Member of the USSR Academy of Sciences I. Gitel'zon:

"The situation on the Yenisey has really become difficult. It is planned to deal with it in the framework of the comprehensive program of the Siberian department of the USSR Academy of Sciences. It is still difficult to say which of the plans is better. Only thorough hydrothermal calculations can provide an answer. Our dam specialists from "Lengidroproyekt" with the involvement of the Krasnoyarsk scientists must apparently study this in earnest.

In principle, the surface intake of water from the reservoirs is not an innovation. In Japan, for example, it is done on the Hitotsusi River on a dam 130 meters high. In the United States, a special system in Utah takes water both from the surface, and from the deep layers of the reservoir. It is true that none of these rivers freezes up, and this is precisely what causes the most complications.

Nevertheless, the question of 'how to freeze the Yenisey' is less disturbing today. Another is much more important: who will freeze the Yenisey? For now, none of the departments that the authors of the plans have turned to has risked taking upon itself the load of solving the problem. The USSR Ministry of Power and Electrification apparently should be involved. Once it erects powerful hydraulic structures, as they say, its up to it."

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CSO: 5000/3

BRIEFS

ANTI-FLOODING PROTECTION--Leningrad--The 25-kilometer complex of hydraulic engineering structures to protect the city will stand as an obstacle on the path of the driven wave of the Baltic which falls on Leningrad every year. The symbolic first stone is being laid in its foundation these days. The complex which will partition off the Gulf of Finland from the Gorskoye settlement in the north to the city of Lomonosov in the south through Kronshtadt will include 11 powerful rock--earth dams and locks. The structure is rated even for a flooding of catastrophic force when the level of the Neva in the city may rise to 5.5 meters. For comparison we recall that during the largest flooding in the history of Leningrad on 19 November 1824, the water rose to 4 meters 21 centimeters. As soon as a report is received about a wave advancing from the Baltic, multiton steel hinges of gates will advance on rails laid on the bottom of the ship passage channels, the segmented gates on the water-passage openings will close. A powerful shield made of steel and concrete will close the water area tightly. [By S. Mikhaylov] [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 24 Jul 81 p 2] 9035

GEORGIAN FLOODING--Tbilisi, 18 July (TASS)--Flood rains which have fallen in recent days over the entire territory of eastern and western Georgia have caused flooding. In the Sagaredzho region, the water and mud flows have destroyed dams. Several dams have been carried away in the vicinity of Chiatura. Power transmission lines have been damaged. Serious damage has been inflicted on the crops of corn, soy, beans, vegetables and grapes. Operational headquarters have been set up in the regions who have suffered from the element. The necessary equipment and construction materials have been sent to the cities and villages. Representatives of Tbilisi, Kutaisi and other cities were present at the restoration work. [Text] [Baku VYSHKA in Russian 19 Jul 81 p 4] 9035

MOLDAVIAN EARTHQUAKE--Kishinev, 18 July (TASS)--An earthquake with strength of 4 points, and 5 points in the south of the republic occurred in Moldavia. There were no victims or damage. This was the report to the correspondent at the seismic station "Kishinev." The earthquake's epicenter was located 220 kilometers from Kishinev in the region of Vrancea(Romania). [Text] [Moscow PRAVDA in Russian 19 Jul 81 p 6] 9035

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SEISMICALLY-STABLE BUILDINGS--Ashkhabad--A high degree of seismic danger has not been an obstacle for the Turkmen builders. They have built the first 12-story homes in the center of Ashkhabad. Construction of these houses is planned in other regions of the city. This has become possible because of the works of the Institute of Seismology of the Turkmenistan Academy of Sciences. Its colleagues have developed a classification of soils, which, depending on the composition, may extinguish or increase the strength of an underground impact. Based on this, the scientists compiled a seismic map of Ashkhabad which helps to select the regions of the city for construction of high buildings. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 18 Jul 81 p 1] 9035

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HYDROMETEOROLOGICAL DIESEL BOAT--Yuzhno-Sakhalinsk, 25 July--The diesel boat "Anabar" the ship of the Sakhalinsk oblast administration for hydrometeorology and environmental control was sent on its next voyage. The trip will last almost 1.5 months. During this time the ship's crew will visit meteorological stations located on Sakhalin and the Kurile Islands and deliver sets of all that is needed for the coming winter: fuel, food, and equipment. At the same time, the automatic meteorological stations will be repaired. [By outside correspondent V. Ryabchikov] [Text] [Moscow PRAVDA in Russian 26 Jul 81 p 6] 9035

LENINGRAD HURRICANE--Leningrad, 25 July--The flood rain and squall whose velocity the instruments of the meteorological station were not able to determine, hit the territory of the Leningradskaya Oblast. The hurricane beat for several hours after causing significant damage to industrial and agricultural enterprises and housing settlements of Boksitogorsk, Tikhvin, Lodeynoye Pole and Volkhovsk rayons. Barriers made of uprooted trees formed on the roads. The wind overturned cars and brought down the supports of high-voltage lines. Power supply and communications were disrupted. Train movement stopped temporarily: the element damaged the contact circuit on a 150 km section. The destruction was especially bad in Tikhvin and Novaya Ladoga. The roofs of the animal husbandry farms and houses were removed. Operational headquarters in the municipal party committees were included in the active work to eliminate the consequences of the elemental misfortune. Emergency teams and equipment were immediately sent where it was necessary to restore the normal activity of transportation, communications, and the enterprises of the food industry and public nutrition. Within several hours after the hurricane, passenger trains were running over the restored section of railroad and the telephone and telegraph communications began to operate. [By V. Gerasimov] [Text] [Moscow PRAVDA in Russian 26 Jul 81 p 6] 9035

LUGA HURRICANE--(Leningradskaya Oblast), 26 Jun (TASS)--An air eddy of destructive force, accompanied by a flash of lightning, thunder and showers unprecedented in this area hit the territory of the Luga region yesterday evening. The powerful air waves removed the roofs from the houses. Age-old trees were bent and broken by its blows just like cobwebs and pipes were broken. For a total of 20 minutes, the element raged, then the wind died, but the showers continued. The water level

in the rivers and lakes rose swiftly to 1.5 meters in places. The headquarters set up under the Luga municipal CPSU committee to combat the misfortune rapidly took measures to eliminate the consequences of the raging element. Diesel generators were delivered to the animal husbandry complexes for their continuous operation. Continuous food supply was organized in the rest homes and pioneer camps. The emergency brigades of workers worked all night. Already by 10:00, electricity supply had been restored. Other restoration work is continuing. There were no fatalities. [Text] [Moscow PRAVDA in Russian 27 Jun 81 p 6]

AIR PURIFICATION--"It has become difficult to breathe in certain regions of our wonderful Vinnitsa," our reader I. Karpeyev wrote to the editorial staff. "Everyone understands how important it is to develop chemistry, but the party requires that this does not damage the health of the people. These requirements need to be held to." The editorial staff sent the letter of the reader to the Main Sanitary-Epidemiological Administration of the UkSSR Ministry of Public Health for measures to be taken. As the deputy head of the central board M. Mukharskiy reported, the Vinnitsa Chemical Plant imeni Sverdlov is actually not inflicting many unpleasant consequences on the residents of the nearby neighborhoods with its emissions. It is true that recently gas treatment works were built in one of the shops. The Main Sanitary-Epidemiological Administration again raised the acute question before the USSR Ministry of the Chemical Industry of additional measures to protect human health. As a result, the ministry made a decision to allocate 2 million rubles to set up a sanitary-protected zone. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 23 Jul 81 p 2] 9035

CATALYTIC REFORMING--An unusual structure that is similar to a bookstand has shot up in the environs of Baku. This is the first industrial unit of catalytic reforming, a new industry at the Plant imeni Vladimir Il'ich, the flagship of the Azerbaijan oil refining industry. The unit is equipped with modern means of automatic measurement and regulation. They are used to maintain a stable and optimal production regime. Especially high quality nonethylated automobile gasolines are produced. They are often called "pure." But is such gasoline possible? The plant director A. Guseynov answers this question: "There are no absolutely nontoxic, that is 'pure' compounds in nature. This also refers to products of oil refining. Gasoline, kerosene, oil and gas fractions during combustion in the operating process release harmful substances. The rapid development of automobile transportation requires that the scientists and production engineers reduce the consumption of fuel. This has proved possible by means of increasing the so-called octane number in gasolines. Ethyl liquid is added to it. However, when these gasolines are burned, exhausts are formed in the car engine which contain carbon monoxide, nitrogen, as well as solid particles. One-third of them are lead compounds. They are the most harmful for man and the engines. The oil refineries of the country have recently widely introduced the process of catalytic reforming of low-octane gasolines. The difference between our unit and those operating at other plants is that it guarantees high, stable activity and permits more effective 'refinement' of the fuel. As a result, nonethylated, low-toxic gasolines can be produced. They are therefore considered relatively pure. Their use reduces pollution in the atmosphere, increases the service life of the automobile engines and decreases fuel consumption." [Text] [Moscow PRAVDA in Russian 12 Jul 81 p 1]

SETTLING TANKS--Poisoning the air with their evaporations and not at all embellishing the Baku suburbs, the turbid lakes formed of formation water will gradually disappear from the territory of the oldest oil region, the Leninskiy. A complex of waste water treatment of the oil and gas extracting administration "Leninneft'" will eliminate them. Giant metal cylinders have been built along the canal leading to the sea. These are the settling tanks of the new complex. They are hermetically sealed, and this means that there is nothing to fear from harmful evaporations. In the settling tanks, the water which is pumped out by the oil workers from the depths, will pass the first treatment, then will be sent through coal filters. Double filtering will permit a 30-fold reduction in the concentration of oil products in the formation waters, and bring them to that degree of purity at which they can be discharged into the Caspian. [Text] [Baku VYSHKA in Russian 17 Jul 81 p 3] 9035

URAL RIVER CLEANER--At the insistence of the deputies of the city of Ural'sk, working of sand and gravel in the bed of the Ural River has been banned. The construction materials are only extracted on the shore now. The people's elected representatives of the oblast decided to return the river to its original cleanliness, thus fulfilling the instructions of the electorate. Together with public-spirited people they recorded all the sources of possible pollution of the water. Over 200 animal husbandry facilities were moved from the territories adjoining the Ural and its tributaries at their request. Discharge of industrial and household effluent was completely halted. At a great distance from the shore, municipal waste accumulators were erected. Construction of a station for biological treatment is underway at accelerated rates near Ural'sk. [Text] [Moscow IZVESTIYA in Russian 23 Aug 81 p 2] 9035

KURILE EARTHQUAKE--Yuzhno-Sakhalinsk, 4 Sep (TASS)--A strong underground jolt was recorded on 3 September in the evening by the seismic stations of Sakhalin and the Kurile Islands. In the epicenter of the earthquake, 80 kilometers to the east of Shikotan Island, the strength of the jolt reached 8 points. There were no fatalities. [Text] [Moscow PRAVDA in Russian 5 Sep 81 p 6] 9035

SECOND KURILE EARTHQUAKE--Yuzhno-Sakhalinsk, 9 Sep (TASS)--Today at 07:27 local time, the seismic stations of Sakhalin and the Kurile Islands recorded an earthquake whose epicenter was located 80 km to the southeast of Shikotan Island. The underground jolt was felt on Shikotan with strength to 5 points. On Kunashir it was 3-4 points. Today's earthquake on the Kurile Islands is the second after the powerful jolt of 7-8 points that occurred here on 3 September. The earthquake did not cause any damage in the settlements. [Text] [Moscow PRAVDA in Russian 10 Sep 81 p 6] 9035

CASPIAN CLEAN-UP--Baku, 31 Aug--Construction of an usual mooring is being completed in the sea port. It will collect the daily wastes from ships coming to the city. This is one of the measures taken to protect the Caspian recently. The design of the modern tanker fleet is such that pollution of the sea by oil products is excluded, while on the old tankers where there are no special compartments, the ballast, a mixture of water and oil is given to the shore treatment works. Located next to the Oil Refinery imeni 22nd CPSU Congress, they separate the mixture and send thousands of tons of additional raw material to the enterprise. The Caspian is becoming cleaner. It is curious that more fishing rods are being seen on the sea beaches. The specialists assert that the gray mullet, Caspian roach and sand eels have returned to the Ansheron shores. [By L. Tairov] [Text] [Moscow PRAVDA in Russian 1 Sep 81 p 6] 9035

SAKHALIN CYCLONE--Yuzhno-Sakhalinsk, 5 Aug--A cyclone of unusual strength hit Sakhalin. It brought an enormous quantity of precipitation. In the central part of Sakhalin, the Uglegorsk, Tomari, and Makarov regions, rain fell during the day to 1.5 of the monthly standards. The rivers overflowed, flooded individual population centers, and large areas of agricultural crops sown with potatoes, vegetables and feed crops. Tens of kilometers of roads were washed away. Bridges were carried off in places and the telephone communication was disrupted. Railroad communication was interrupted in some directions. The situation was complicated by the fact that the showers were accompanied by strong winds. In the Kholmskiy, Nevel'sk and Tomari regions they reached a velocity of 30 meters per second. The residents of the oblast were warned in advance about the onset of the cyclone and were able to prepare. The children were evacuated in an organized manner from the pioneer camps and the residents of the hit populated areas. Communications, roads and bridges are being restored and the consequences of the flooding are being eliminated. [By V. Ryabchikov] [Text] [Moscow PRAVDA in Russian 6 Aug 81 p 6] 9035

DON OVERFLOWS--Krasnoznamennyy Severo-Kavkazskiy military okrug--Flooded houses and streets, animal husbandry farms cut off from dry land and power transmission lines under water, this has been the Don since the second half of spring in the area of the historical and architectural monument, the Starocherkasskiy station. Spring was late in the upper reaches of the Don and its tributaries. Then rapid melting of snow began and the river overflowed. The water in it rose over the average level by almost 4 meters. The farmstead Krasnyy and other population points were cut off from dry land. It was hard to conduct rescue operations. Cutters and other boats hit shallows and snags. It was also not easy to do all the work under conditions of the raging element with boats alone. At the request of the local party and soviet agencies floating troop transports commanded by F. Finayev and S. Lavrent'yev came to the flooded area. Drivers A. Popov, V. Borzov and N. Savulyak, led by ensign I. Reshetilo first took all the women with children and the elderly to a safe place. The drivers of the combat machines had to work in a complicated situation. The "amphibia" encountered shores and dams eroded and hidden under water, rapids and whirlpools. In this situation, all the drivers as one showed high skill and courage, and faithfulness to their military duty. At one time the rescue operations were going round the clock. Now the drivers spend 18-20 hours a day in their combat machines. They deliver food and feed to the farms, and transport equipment and spare parts. Life in the regions and populated areas which have suffered from the flooding is beginning to return to normal with each day. The combat engineers get a lot of credit for this. [By Major B. Makarevich] [Text] [Moscow KRASNAYA ZVEZDA in Russian 19 May 81 p 1] 9035

ENVIRONMENTAL INSPECTION--The legal position of the Inspection of the USSR Minister of Defense for Environmental Protection has been defined. It is an agency which controls the condition of environmental protection, the efficient use and reproduction of natural resources, and the timely taking of environmental protection measures in the army and navy. In order to realize the organizational, educational-method and other tasks set before the Inspection, it has the right to check the execution by the military units, institutions, military-educational institutions and enterprises of the legislation on environmental protection and efficient use of natural resources, and require from the corresponding agencies a presentation of accounts and make suggestions on banning or stopping the operation of different facilities. The Inspection raises in the established order a question regarding holding officials responsible for nonfulfillment of plans and measures on environmental protection, inobservance of standards and rules for using natural resources, as well as depriving the guilty of bonuses. [Text] [Moscow KRASNAYA ZVEZDA in Russian 23 Jul 81 p 2] 9035

CSO: 5000/3

BRIEFS

NUCLEAR MISSILE LEAK ALLEGATIONS--For the past several days, dead fish have been drifting ashore along the coastal strip stretching from Magosa [Famagusta] to Yeni Erenkoy. The fishing office in Magosa reports that since several days ago, complaints on this score have increased and that dead fish, particularly of the Orfoz and Sorgoz [Translation unknown] types present a great danger from the standpoint of the public's health. Meanwhile, it is alleged that the fish kill was a result of the joint maneuvers carried out by the Soviets and the Syrians and was caused by poisonous substances coming from the nuclear warhead bearing missiles. The Magosa municipality has taken the matter in hand. It calls on the public to refrain from eating the fish which are drifting ashore. [Text] [Nicosia HALKIN SESI in Turkish 6 Oct 81 p 1]

CSO: 4654/32

SOLUTIONS TO RHINE RIVER SALT POLLUTION PROBLEMS

Paris L'USINE NOUVELLE in French 15 Oct 81 p 84

[Article by Paul Delun: "The Rhine pollution: Michel Crepeau Reopens the File".]

[Text] On 17 November, European environment ministers will meet again to address the problem of the salt pollution of the Rhine. The French minister, Mr Michel Crepeau, will re-examine the file next week with local elected officials, unions, and ecologists. He will have to use all his negotiating talents, because opposite interests are involved.

Let us recall the facts: In order to produce 1.9 million tons of potash per year, the government-run Alsace Mines release 7 million tons of sodium chloride, a fatal salt which poisons both the river and international relations, since the Dutch, downstream, use the Rhine for three-fourths of their fresh water. Germany also, on the other hand, releases as much salt, but it is done in many places, and wisdom requires addressing the most concentrated source first. Michel Crepeau will present 3 projects projected for a 10-year period: Removal by boat to the ocean (110 francs per ton), which seems a prohibitive cost; construction of a "brineduct" to carry the salt to the Lorraine soda mines (30 francs per ton); injection into the Alsace underground, which is the cheapest solution (20 francs per ton).

The latter process consists in replacing the water in a deposit 1,800 m deep by the salt-bearing waste through 3 injection wells and 3 removal wells. This solution was the object of an international agreement in 1976. The agreement anticipated joint financing by neighboring countries, but faced with protests from local elected officials as well as ecologists who opposed the project because of the risks of polluting the water table, the French Government never submitted the treaty to the Parliament for ratification. Local officials and unions both are pushing a fourth solution: the creation of a salt marsh as the starting point for a chemical plant.

A project for an installation capable of processing a million tons and whose production would be absorbed by the neighboring countries was not accepted by the European ministers. There remains the possibility of a national solution, with a production capability of 300,000 tons. Local politicians are hanging on to this solution because it would create new jobs, but consider it as insufficient: "This capability is useless!" protests Mr Jean Ferry, General Secretary of the Compagnie

des Salins du Midi et des Salines de l'Est (Southern and Eastern Salt Production Facilities). Led by Mr Claude Coulais, mayor of Nancy, the people of Lorraine have created a committee for the defense of their own salt production facilities, rallying behind the theme: "Every ton produced in Alsace would be taken away from Lorraine! A thousand jobs are at stake in the Meurthe valley."

"Our installations, which have a capacity of 900,000 tons, are operating at 65 percent of their capacity, explains Mr Jean Ferry. And whereas the consumption of rock salt is on the increase (because of road salting in particular), the demand for refined salt has been decreasing on the European market, with those in favor of the salt-producing solution maintaining the confusion" (the French production of salt is 3,235,000 tons, 1,107,000 of which is refined salt).

The people of Lorraine fear a bargain: a "small" salt-producing facility, in any case incapable of eliminating the waste, against an agreement for the injection solution.

The answer is due in November unless, after more delaying tactics, we reach 1990 when the production of the Alsace potash mines should begin to taper off. At the present rate of progress, it is not inconceivable.

As to the waters of the Rhine, they are used to it and Wagnerian singers have not bathed in it for a long time.

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